



# SEQUENCE LISTING

<110> Majmuder, Kamud

<120> Novel Polypeptides and Amino Acids Encoding Same

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<140> 10/689,832

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<150> 09/813,432

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<150> 60/190,835

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<151> 2000-03-29

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<170> PatentIn Ver. 2.1

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      20              25              30

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Gly Ile Cys Leu Phe Ser Gln Arg Phe Leu Met Ile Leu Trp Leu Lys
    35              40              45

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Gly Val Val Phe Ser Val Thr Thr Val Asp Leu Lys Arg Lys Pro Ala
    50              55              60

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Asp Leu Gln Asn Lys Ala Pro Gly Asn His Pro Pro Leu Ile Thr Ser
    65              70              75              80

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Thr Val Lys Ser Asn Lys Ile Glu Glu Ala Pro Glu Glu Val Leu Cys
      85              90              95

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Pro Pro Lys Tyr Leu Lys Leu Ser Pro Lys His Pro Glu Ser Asn Thr
    100             105             110

```

```

Ala Gly Met Asp Ile Phe Ala Lys Phe Ser Ala Tyr Ile Lys Asn Ser
    115             120             125

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Arg Pro Glu Val Asn Glu Ala Leu Val Lys His Leu Leu Lys Thr Leu
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Gln Lys Met Glu Tyr Leu Asn Ser Pro Leu Pro Asp Glu Ile Asp Glu
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Asn Ser Met Gln Asp Thr Lys Phe Ser Thr His Lys Phe Leu Asn Gly
    165             170             175

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Asn Lys Met Ala Leu Ala Asp Cys His Leu Leu Pro Lys Leu His Ile
    180             185             190

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Gly Met Thr Gly Ile Trp Arg Tyr Leu Thr Asn Thr Ser Ser Arg Asp  
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35 40 45

Leu Met Asp Ser Lys Gly Phe Asp Glu Asn Lys Tyr Met Lys Glu Leu  
50 55 60

Gly Val Gly Leu Ala Leu Cys Glu Lys Lys Gly Ala Met Ala Lys Lys  
65 70 75 80

Asp Cys Ile Ser Phe Phe Asp Gly Lys Asn Leu Thr Ile Lys Met Glu  
85 90 95

Ser Thr Leu Lys Ser Tyr Ser Phe Leu Thr Leu Arg Gly Gly Lys Phe  
100 105 110

Lys Glu Thr Thr Gly Asp Gly Arg Lys Thr Gln Thr Cys Thr Phe Thr  
 115 120 125  
 Tyr Gly Thr Leu Val Arg His Gln Lys Trp Asn Gly Lys Glu Gly Lys  
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 <212> PRT  
 <213> Homo sapiens

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 Ser Pro Gly Pro Asp Tyr Leu Arg Arg Gly Trp Met Arg Leu Leu Ala  
 35 40 45  
 Glu Gly Glu Gly Cys Ala Pro Cys Arg Pro Glu Glu Cys Ala Ala Pro  
 50 55 60  
 Arg Gly Cys Leu Ala Gly Arg Val Arg Asp Ala Cys Gly Cys Cys Trp

65	70	75	80
Glu Cys Ala Asn Leu Glu Gly Gln Leu Cys Asp Leu Asp Pro Ser Ala	85	90	95
His Phe Tyr Gly His Cys Gly Glu Gln Leu Glu Cys Arg Leu Asp Thr	100	105	110
Gly Gly Asp Leu Ser Arg Gly Glu Val Pro Glu Pro Leu Cys Ala Cys	115	120	125
Arg Ser Gln Ser Pro Leu Cys Gly Ser Asp Gly His Thr Tyr Ser Gln	130	135	140
Ile Cys Arg Leu Gln Glu Ala Ala Arg Ala Arg Pro Asp Ala Asn Leu	145	150	155
Thr Val Ala His Pro Gly Pro Cys Glu Ser Gly Pro Gln Ile Val Ser	165	170	175
His Pro Tyr Asp Thr Trp Asn Val Thr Gly Gln Asp Val Ile Phe Gly	180	185	190
Cys Glu Val Phe Ala Tyr Pro Met Ala Ser Ile Glu Trp Arg Lys Asp	195	200	205
Gly Leu Asp Ile Gln Leu Pro Gly Asp Asp Pro His Ile Ser Val Gln	210	215	220
Phe Arg Gly Gly Pro Gln Arg Phe Glu Val Thr Gly Trp Leu Gln Ile	225	230	235
Gln Ala Val Arg Pro Ser Asp Glu Gly Thr Tyr Arg Cys Leu Gly Arg	245	250	255
Asn Ala Leu Gly Gln Val Glu Ala Pro Ala Ser Leu Thr Val Leu Thr	260	265	270
Pro Asp Gln Leu Asn Ser Thr Gly Ile Pro Gln Leu Arg Ser Leu Asn	275	280	285
Leu Val Pro Glu Glu Glu Ala Glu Ser Glu Glu Asn Asp Asp Tyr Tyr	290	295	300

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<210> 8

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<212> PRT

<213> Homo sapiens

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Ala Ser Ile Tyr Ala Gly Thr Gly Gly Leu Gly Ser Gln Ile Ser Met
      35                      40                     45

Ser Cys Ser Thr Ser Phe Trp Gly Gly Leu Gly Ser Gly Gly Leu Ala
      50                      55                     60

Thr Glu Met Ala Gly Gly Leu Ala Glu Met Gly Gly Ile Gln Asn Glu
      65                      70                     75                     80

Lys Glu Thr Met Gln Ser Leu Asn Asp His Leu Asp Tyr Leu Asp Arg
      85                      90                     95

Val Arg Asn Leu Glu Thr Glu Asn Trp Arg Leu Glu Ser Lys Ile Gln
      100                     105                     110

Glu Tyr Leu Glu Lys Arg Pro His Val Arg Asp Trp Gly His Tyr Phe
      115                     120                     125

Lys Thr Ile Lys Glu Leu Arg Ala Gln Ile Phe Ala Asn Thr Val Asp
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Asn Val His Ile Ile Leu Gln Ile Asp Asn Ala Arg Leu Ala Ala Asp
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Thr	Leu	Leu	Gln	Leu	Glu	Thr	Glu	Met	Gly	Ala	Leu	Lys	Glu	Glu	Leu	195	200	205
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Gln	Val	Leu	Ala	Lys	Val	Met	Ala	Asp	Ile	Arg	Ala	Gln	Tyr	Asp	Glu	245	250	255
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Ala	Ala	Glu	Met	Thr	Thr	Glu	Leu	Arg	Arg	Thr	Val	Gln	Cys	Leu	Glu	290	295	300
Ile	Asp	Leu	Asp	Ser	Met	Arg	Asn	Leu	Lys	Thr	Ser	Leu	Glu	Asn	Ser	305	310	315
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Lys	Leu	Glu	Ala	Glu	Ile	Ala	Thr	Tyr	Arg	Arg	Leu	Leu	Glu	Asp	Ser	370	375	380
Glu	Gly	Leu	Asn	Leu	Gly	Asp	Ala	Leu	Asp	Ser	Ser	Asn	Ser	Met	Gln	385	390	395
Thr	Ile	Gln	Lys	Thr	Thr	Thr	Arg	Gln	Ile	Val	Asp	Ser	Lys	Val	Val	405	410	415
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<210> 10

<211> 733

<212> PRT

<213> Homo sapiens

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          20                      25                      30

Gly Thr Thr Lys Val Pro Gly Ser Thr Pro Ala Leu His Ser Ser Pro
          35                      40                      45

Ala Gln Pro Ser Ala Glu Thr Ala Asn Thr Ser Glu Gln His Val Arg
          50                      55                      60

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Thr	Pro	Thr	Pro	Ala	Gly	Thr	Leu	Asp	Pro	Ala	Glu	Lys	Gln	Glu	Pro		100	105	110	
Gly	Cys	Pro	Pro	Leu	Gly	Leu	Glu	Ser	Leu	Arg	Val	Ser	Asp	Ser	Arg		115	120	125	
Leu	Glu	Ala	Ser	Ser	Ser	Gln	Ser	Phe	Gly	Leu	Gly	Pro	His	Arg	Gly		130	135	140	
Arg	Leu	Asn	Ile	Gln	Ser	Gly	Leu	Glu	Asp	Gly	Asp	Leu	Tyr	Asp	Gly		145	150	155	160
Ala	Trp	Cys	Ala	Glu	Glu	Gln	Asp	Ala	Asp	Pro	Trp	Phe	Gln	Val	Asp		165	170	175	
Ala	Gly	His	Pro	Thr	Arg	Phe	Ser	Gly	Val	Ile	Thr	Gln	Gly	Arg	Asn		180	185	190	
Ser	Val	Trp	Arg	Tyr	Asp	Trp	Val	Thr	Ser	Tyr	Lys	Val	Gln	Phe	Ser		195	200	205	
Asn	Asp	Ser	Arg	Thr	Trp	Trp	Gly	Ser	Arg	Asn	His	Ser	Ser	Gly	Met		210	215	220	
Asp	Ala	Val	Phe	Pro	Ala	Asn	Ser	Asp	Pro	Glu	Thr	Pro	Val	Leu	Asn		225	230	235	240
Leu	Leu	Pro	Glu	Pro	Gln	Val	Ala	Arg	Phe	Ile	Arg	Leu	Leu	Pro	Gln		245	250	255	
Thr	Trp	Leu	Gln	Gly	Gly	Ala	Pro	Cys	Leu	Arg	Ala	Glu	Ile	Leu	Ala		260	265	270	
Cys	Pro	Val	Ser	Asp	Pro	Asn	Asp	Leu	Phe	Leu	Glu	Ala	Pro	Ala	Ser		275	280	285	
Gly	Ser	Ser	Asp	Pro	Leu	Asp	Phe	Gln	His	His	Asn	Tyr	Lys	Ala	Met		290	295	300	
Arg	Lys	Leu	Met	Lys	Gln	Val	Gln	Glu	Gln	Cys	Pro	Asn	Ile	Thr	Arg		305	310	315	320
Ile	Tyr	Ser	Ile	Gly	Lys	Ser	Tyr	Gln	Gly	Leu	Lys	Leu	Tyr	Val	Met		325	330	335	
Glu	Met	Ser	Asp	Lys	Pro	Gly	Glu	His	Glu	Leu	Gly	Glu	Pro	Glu	Val		340	345	350	
Arg	Tyr	Val	Ala	Gly	Met	His	Gly	Asn	Glu	Ala	Leu	Gly	Arg	Glu	Leu		355	360	365	

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 Pro Arg Val Thr Arg Leu Leu Ser Glu Met Arg Ile His Leu Leu Pro  
 385 390 395 400  
 Ser Met Asn Pro Asp Gly Tyr Glu Ile Ala Tyr His Arg Gly Ser Glu  
 405 410 415  
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 435 440 445  
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 Gly Asp Tyr Trp Arg Leu Leu Thr Pro Gly Asp Tyr Met Val Thr Ala  
 660 665 670

Ser Ala Glu Gly Tyr His Ser Val Thr Arg Asn Cys Arg Val Thr Leu  
675 680 685

Lys Arg Gly Pro Phe Pro Cys Asn Phe Val Leu Thr Lys Thr Pro Lys  
690 695 700

Gln Arg Leu Arg Glu Leu Leu Ala Ala Gly Ala Lys Val Pro Pro Asp  
705 710 715 720

Leu Arg Arg Arg Leu Glu Arg Leu Arg Gly Gln Lys Asp  
725 730

<210> 11  
<211> 846  
<212> DNA  
<213> Homo sapiens

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cggggaagtg gccgtggcag gtcagcctga gggctctacag ctaccactgg gcctcctggg 180  
cgcacatctg tgggggctcc ctcattccacc cccagtgggt gctgactgct gccactgca 240  
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acgggggccc ggggctgctg aacgtcagcc ggatcatcgt ccacccaac tatgtcactg 360  
cggggctggg tgcggatgtg gccctgctcc agctggtagag ccccatgac ggagccgcta 420  
atgtcaggag ggtcaagctc tcccgggtct cgctggagct caccggaag gaccagtgt 480  
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<210> 12  
<211> 278  
<212> PRT  
<213> Homo sapiens

<400> 12  
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20 25 30  
Gly Gly His Asn Ala Pro Pro Gly Lys Trp Pro Trp Gln Val Ser Leu  
35 40 45  
Arg Val Tyr Ser Tyr His Trp Ala Ser Trp Ala His Ile Cys Gly Gly  
50 55 60  
Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Ile Phe  
65 70 75 80

Trp Lys Asp Thr Asp Pro Ser Ile Tyr Arg Ile His Ala Gly Asp Val  
                                     85                                    90                                    95  
 Tyr Leu Tyr Gly Gly Arg Gly Leu Leu Asn Val Ser Arg Ile Ile Val  
                                     100                                    105                                    110  
 His Pro Asn Tyr Val Thr Ala Gly Leu Gly Ala Asp Val Ala Leu Leu  
                                     115                                    120                                    125  
 Gln Leu Val Ser Pro Met Ile Gly Ala Ala Asn Val Arg Thr Val Lys  
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 Leu Ser Pro Val Ser Leu Glu Leu Thr Pro Lys Asp Gln Cys Trp Val  
                                     145                                    150                                    155                                    160  
 Thr Gly Trp Gly Ala Ile Arg Met Phe Glu Ser Leu Pro Pro Pro Tyr  
                                     165                                    170                                    175  
 Arg Leu Gln Gln Ala Ser Val Gln Val Leu Glu Asn Ala Val Cys Glu  
                                     180                                    185                                    190  
 Gln Pro Tyr Arg Asn Ala Ser Gly His Thr Gly Asp Arg Gln Leu Ile  
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 Leu Asp Asp Met Leu Cys Ala Gly Ser Glu Gly Arg Asp Ser Cys Gln  
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 Gly Asp Ser Gly Gly Pro Leu Val Cys Arg Leu Arg Gly Ser Trp Arg  
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 Leu Val Gly Val Val Ser Trp Gly Tyr Gly Cys Thr Leu Arg Asp Phe  
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 Gln Val Gly Glu Leu Pro  
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<210> 13

<211> 2145

<212> DNA

<213> Homo sapiens

<400> 13

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tcacggcatg tctccgtggg catcttcagc ctgctttgcc tcatggtggg gcaggtggtg 480
gaccgggagc tccagctggc cggctttgac ccctcccagg acggcctgca gcccgagacc 540
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<210> 14

<211> 633

<212> PRT

<213> Homo sapiens

<400> 14

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Met Asp Glu Ser Pro Glu Pro Leu Gln Gln Gly Arg Gly Pro Val Pro
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Val Arg Arg Gln Arg Pro Ala Pro Arg Gly Leu Arg Glu Met Leu Lys
      20                      25                     30

Ala Arg Leu Trp Cys Ser Cys Ser Cys Ser Val Leu Cys Val Arg Ala
      35                      40                     45

Leu Val Gln Asp Leu Leu Pro Ala Thr Arg Trp Leu Arg Gln Tyr Arg
      50                      55                     60

Pro Arg Glu Tyr Leu Ala Gly Asp Val Met Ser Gly Leu Val Ile Gly
      65                      70                     75                     80

Ile Ile Leu Val Pro Gln Ala Ile Ala Tyr Ser Leu Leu Ala Gly Leu
      85                      90                     95

Gln Pro Ile Tyr Ser Leu Tyr Thr Ser Phe Phe Ala Asn Leu Ile Tyr
      100                     105                    110

Phe Leu Met Gly Thr Ser Arg His Val Ser Val Gly Ile Phe Ser Leu
      115                     120                    125

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Leu	Cys	Leu	Met	Val	Gly	Gln	Val	Val	Asp	Arg	Glu	Leu	Gln	Leu	Ala	130	135	140
Gly	Phe	Asp	Pro	Ser	Gln	Asp	Gly	Leu	Gln	Pro	Gly	Ala	Asn	Ser	Ser	145	150	155
Thr	Leu	Asn	Gly	Ser	Ala	Ala	Met	Leu	Asp	Cys	Gly	Arg	Asp	Cys	Tyr	165	170	175
Ala	Ile	Arg	Val	Ala	Thr	Ala	Leu	Thr	Leu	Met	Thr	Gly	Leu	Tyr	Gln	180	185	190
Val	Leu	Met	Gly	Val	Leu	Arg	Leu	Gly	Phe	Val	Ser	Ala	Tyr	Leu	Ser	195	200	205
Gln	Pro	Leu	Leu	Asp	Gly	Phe	Ala	Met	Gly	Ala	Ser	Val	Thr	Ile	Leu	210	215	220
Thr	Ser	Gln	Leu	Lys	His	Leu	Leu	Gly	Val	Arg	Ile	Pro	Arg	His	Gln	225	230	235
Gly	Pro	Gly	Met	Val	Val	Leu	Thr	Trp	Leu	Ser	Leu	Leu	Arg	Gly	Ala	245	250	255
Gly	Gln	Ala	Asn	Val	Cys	Asp	Val	Val	Thr	Ser	Thr	Val	Cys	Leu	Ala	260	265	270
Val	Leu	Leu	Ala	Ala	Lys	Glu	Leu	Ser	Asp	Arg	Tyr	Arg	His	Arg	Leu	275	280	285
Arg	Val	Pro	Leu	Pro	Thr	Glu	Leu	Leu	Val	Ile	Val	Val	Ala	Thr	Leu	290	295	300
Val	Ser	His	Phe	Gly	Gln	Leu	His	Lys	Arg	Phe	Gly	Ser	Ser	Val	Ala	305	310	315
Gly	Asp	Ile	Pro	Thr	Gly	Phe	Met	Pro	Pro	Gln	Val	Pro	Glu	Pro	Arg	325	330	335
Leu	Met	Gln	Arg	Val	Ala	Leu	Asp	Ala	Val	Ala	Leu	Ala	Leu	Val	Ala	340	345	350
Ala	Ala	Phe	Ser	Ile	Ser	Leu	Ala	Glu	Met	Phe	Ala	Arg	Ser	His	Gly	355	360	365
Tyr	Ser	Val	Arg	Ala	Asn	Gln	Glu	Leu	Leu	Ala	Val	His	Arg	Gly	His	370	375	380
Leu	Arg	Gly	Ala	Cys	Gln	Gly	Val	Gly	Leu	Pro	Gly	Cys	Gly	Gly	Ser	385	390	395
Pro	Ala	Asp	Ala	Leu	Val	Trp	Ala	Gly	Thr	Gly	Thr	Cys	Met	Leu	Val	405	410	415
Ser	Thr	Glu	Ala	Gly	Leu	Leu	Ala	Gly	Val	Ile	Leu	Ser	Leu	Leu	Ser	420	425	430

Leu Ala Gly Arg Thr Gln Lys Pro Arg Thr Ala Leu Leu Ala Arg Ile  
 435 440 445  
 Gly Asp Thr Ala Phe Tyr Glu Asp Ala Thr Glu Phe Glu Gly Leu Val  
 450 455 460  
 Pro Glu Pro Gly Val Arg Val Phe Arg Phe Gly Gly Pro Leu Tyr Tyr  
 465 470 475 480  
 Ala Asn Lys Asp Phe Phe Leu Gln Ser Leu Tyr Ser Leu Thr Gly Leu  
 485 490 495  
 Asp Ala Gly Cys Met Ala Ala Arg Arg Lys Glu Gly Gly Ser Glu Thr  
 500 505 510  
 Gly Val Gly Glu Gly Gly Pro Ala Gln Gly Glu Asp Leu Gly Pro Val  
 515 520 525  
 Ser Thr Arg Ala Ala Leu Val Pro Ala Ala Ala Gly Phe His Thr Val  
 530 535 540  
 Val Ile Asp Cys Ala Pro Leu Leu Phe Leu Asp Ala Ala Gly Val Ser  
 545 550 555 560  
 Thr Leu Gln Asp Leu Arg Arg Asp Tyr Gly Ala Leu Gly Ile Ser Leu  
 565 570 575  
 Leu Leu Ala Cys Cys Ser Pro Pro Val Arg Asp Ile Leu Ser Arg Gly  
 580 585 590  
 Gly Phe Leu Gly Glu Gly Pro Gly Asp Thr Ala Glu Glu Glu Gln Leu  
 595 600 605  
 Phe Leu Ser Val His Asp Ala Val Gln Thr Ala Arg Ala Arg His Arg  
 610 615 620  
 Glu Leu Glu Ala Thr Asp Ala His Leu  
 625 630

<210> 15  
 <211> 406  
 <212> DNA  
 <213> Homo sapiens

<400> 15  
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 attatcagtc aagaagaaga caaggtggtg atcaggattc aaagtatgtt caagaacaca 180  
 gaggttagtt tccatctggg agaagagttt gatgaaacca ctacagatga cagaaactgc 240  
 aagtttgttg ttagtctgga cagagacaaa ctcattcaca tacagaaatg ggatgacaaa 300  
 gaaacatatt ttataagaga aattaagtat ggtgaaatgg ttatgacctt tactttttggt 360  
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<210> 16

<211> 132  
 <212> PRT  
 <213> Homo sapiens

<400> 16  
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 Asp Glu Tyr Met Lys Ala Leu Gly Met Gly Phe Val Thr Arg Gln Val  
                   20                  25                  30  
 Gly Asn Val Asp Lys Pro Arg Val Ile Ile Ser Gln Glu Glu Asp Lys  
                   35                  40                  45  
 Val Val Ile Arg Ile Gln Ser Met Phe Lys Asn Thr Glu Val Ser Phe  
           50                  55                  60  
 His Leu Gly Glu Glu Phe Asp Glu Thr Thr Thr Asp Asp Arg Asn Cys  
           65                  70                  75                  80  
 Lys Phe Val Val Ser Leu Asp Arg Asp Lys Leu Ile His Ile Gln Lys  
                   85                  90                  95  
 Trp Asp Asp Lys Glu Thr Tyr Phe Ile Arg Glu Ile Lys Tyr Gly Glu  
                   100                  105                  110  
 Met Val Met Thr Phe Thr Phe Gly Asp Asp Val Val Ala Val His His  
           115                  120                  125  
 Tyr Lys Lys Ala  
           130

<210> 17  
 <211> 418  
 <212> DNA  
 <213> Homo sapiens

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 aaaccaagag tgattatcag tcaagaagaa gacaaggtgg tgatcaggat tcaaagtatg 180  
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 gacagaaact gcaagtttgt tgttagtctg gacagagaca aactcattca catacagaaa 300  
 tgggatgaca aagaaacata ttttataaga gaaattaagt atggtgaaat gggttatgacc 360  
 tttacttttg gtgatgatgt ggttgccggt caccactata agaaggcata aaaatggt 418

<210> 18  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 18  
 Met Val Arg Val Glu Glu Ala Phe Cys Asn Thr Trp Lys Leu Thr Asp  
           1                  5                  10                  15



Gln Asn Phe Asp Glu Tyr Met Lys Ala Leu Gly Met Gly Phe Val Thr  
                   20                                  25                                  30  
 Arg Gln Val Gly Asn Val Asp Lys Pro Arg Val Ile Ile Ser Gln Glu  
                   35                                  40                                  45  
 Glu Asp Lys Val Val Ile Arg Ile Gln Ser Met Phe Lys Asn Thr Glu  
                   50                                  55                                  60  
 Val Ser Phe His Leu Gly Glu Glu Phe Asp Glu Thr Thr Thr Asp Asp  
                   65                                  70                                  75                                  80  
 Arg Asn Cys Lys Phe Val Val Ser Leu Asp Arg Asp Lys Leu Ile His  
                                   85                                  90                                  95  
 Ile Gln Lys Trp Asp Asp Lys Glu Thr Tyr Phe Ile Arg Glu Ile Lys  
                                   100                                  105                                  110  
 Tyr Gly Glu Met Val Met Thr Phe Thr Phe Gly Asp Asp Val Val Ala  
                   115                                  120                                  125  
 Val His His Tyr Lys Lys Ala  
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<210> 19  
 <211> 1119  
 <212> DNA  
 <213> Homo sapiens

<400> 19  
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<210> 20  
 <211> 372  
 <212> PRT  
 <213> Homo sapiens

<400> 20

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			20					25					30		
Tyr	Ser	Leu	Leu	Leu	Cys	Leu	Gly	Leu	Pro	Ala	Asn	Ile	Leu	Thr	Val
		35					40					45			
Ile	Ile	Leu	Ser	Gln	Leu	Val	Ala	Arg	Arg	Gln	Lys	Ser	Ser	Tyr	Asn
	50					55					60				
Tyr	Leu	Leu	Ala	Leu	Ala	Ala	Ala	Asp	Ile	Leu	Val	Leu	Phe	Phe	Ile
65					70					75					80
Val	Phe	Val	Asp	Phe	Leu	Leu	Glu	Asp	Phe	Ile	Leu	Asn	Met	Gln	Met
				85					90					95	
Pro	Gln	Val	Pro	Asp	Lys	Ile	Ile	Glu	Val	Leu	Glu	Phe	Ser	Ser	Ile
			100					105					110		
His	Thr	Ser	Ile	Trp	Ile	Thr	Val	Pro	Leu	Thr	Ile	Asp	Arg	Tyr	Ile
		115					120					125			
Ala	Val	Cys	His	Pro	Leu	Lys	Tyr	His	Thr	Val	Ser	Tyr	Pro	Ala	Arg
	130					135					140				
Thr	Arg	Lys	Val	Ile	Val	Ser	Val	Tyr	Ile	Thr	Cys	Phe	Leu	Thr	Ser
145					150					155					160
Ile	Pro	Tyr	Tyr	Trp	Trp	Pro	Asn	Ile	Trp	Thr	Glu	Asp	Tyr	Ile	Ser
				165					170					175	
Thr	Ser	Val	His	His	Val	Leu	Ile	Trp	Ile	His	Cys	Phe	Thr	Val	Tyr
			180					185					190		
Leu	Val	Pro	Cys	Ser	Ile	Phe	Phe	Ile	Leu	Asn	Ser	Ile	Ile	Val	Tyr
		195					200					205			
Lys	Leu	Arg	Arg	Lys	Ser	Asn	Phe	Arg	Leu	Arg	Gly	Tyr	Ser	Thr	Gly
	210					215					220				
Lys	Thr	Thr	Ala	Ile	Leu	Phe	Thr	Ile	Thr	Ser	Ile	Phe	Ala	Thr	Leu
225					230					235					240
Trp	Ala	Pro	Arg	Ile	Ile	Met	Ile	Leu	Tyr	His	Leu	Tyr	Gly	Ala	Pro
				245					250					255	
Ile	Gln	Asn	Arg	Trp	Leu	Val	His	Ile	Met	Ser	Asp	Ile	Ala	Asn	Met
			260					265					270		
Leu	Ala	Leu	Leu	Asn	Thr	Ala	Ile	Asn	Phe	Phe	Leu	Tyr	Cys	Phe	Ile
		275					280					285			
Ser	Lys	Arg	Phe	Arg	Thr	Met	Ala	Ala	Ala	Thr	Leu	Lys	Ala	Phe	Phe
	290					295					300				

Lys Cys Gln Lys Gln Pro Val Gln Phe Tyr Thr Asn His Asn Phe Ser  
 305 310 315 320

Ile Thr Ser Ser Pro Trp Ile Ser Pro Ala Asn Ser His Cys Ile Lys  
 325 330 335

Met Leu Val Tyr Gln Tyr Asp Lys Asn Gly Lys Pro Ile Lys Ser Arg  
 340 345 350

Asn Asp Ser Lys Ser Ser Tyr Gln Phe Glu Asp Ala Ile Gly Ala Cys  
 355 360 365

Val Ile Ile Leu  
 370

<210> 21  
 <211> 1343  
 <212> DNA  
 <213> Homo sapiens

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 tttaccagca aatatcttga cagtgatcat cctctcccag ctggtggcaa gaagacagaa 180  
 gtccctctac aactatctct tggcactcgc tgctgccgac atcttgggtcc tctttttcat 240  
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 cgacaagatc atagaagtgc tgggaattctc atccatccac acctccatat ggattactgt 360  
 accgttaacc attgacaggt atatactgt ctgccaccgc ctcaagtacc acacgggtctc 420  
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 caaggctttc ttcaagtgcc agaagcaacc tgtacagttc tacaccaatc ataacttttc 960  
 cataacaagt agcccctgga tctcgccggc aaactcacac tgcacaaaga tgctggtgta 1020  
 ccagtatgac aaaaatggaa aacctataaa agtatccccg tgattccata ggtgtggcaa 1080  
 ctactgcctc tgtctaatac atttccagat gggaagggtg cccatcctat ggctgagcag 1140  
 ctctccttaa gagtgcta atccgatttct gtctcccgca gactgggcaa ttctcagact 1200  
 ggtagatgag aagagatgga agagaagaaa ggagagcatg aagcttggtt ttacttatgc 1260  
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 gagcttgtgt catcatcctg tga 1343

<210> 22  
 <211> 353  
 <212> PRT  
 <213> Homo sapiens

<400> 22  
 Met Glu His Thr His Ala His Leu Ala Ala Asn Ser Ser Leu Ser Trp  
 1 5 10 15

Trp Ser Pro Gly Ser Ala Cys Gly Leu Gly Phe Val Pro Val Val Tyr  
 20 25 30  
 Tyr Ser Leu Leu Leu Cys Leu Gly Leu Pro Ala Asn Ile Leu Thr Val  
 35 40 45  
 Ile Ile Leu Ser Gln Leu Val Ala Arg Arg Gln Lys Ser Ser Tyr Asn  
 50 55 60  
 Tyr Leu Leu Ala Leu Ala Ala Ala Asp Ile Leu Val Leu Phe Phe Ile  
 65 70 75 80  
 Val Phe Val Asp Phe Leu Leu Glu Asp Phe Ile Leu Asn Met Gln Met  
 85 90 95  
 Pro Gln Val Pro Asp Lys Ile Ile Glu Val Leu Glu Phe Ser Ser Ile  
 100 105 110  
 His Thr Ser Ile Trp Ile Thr Val Pro Leu Thr Ile Asp Arg Tyr Ile  
 115 120 125  
 Thr Val Cys His Pro Leu Lys Tyr His Thr Val Ser Tyr Pro Ala Arg  
 130 135 140  
 Thr Arg Lys Val Ile Val Ser Val Tyr Ile Thr Cys Phe Leu Thr Ser  
 145 150 155 160  
 Ile Pro Tyr Tyr Trp Trp Pro Asn Ile Trp Thr Glu Asp Tyr Ile Ser  
 165 170 175  
 Thr Ser Val His His Val Leu Ile Trp Ile His Cys Phe Thr Val Tyr  
 180 185 190  
 Leu Val Pro Cys Ser Ile Phe Phe Ile Leu Asn Ser Ile Ile Val Tyr  
 195 200 205  
 Lys Leu Arg Arg Lys Ser Asn Phe Arg Leu Arg Gly Tyr Ser Thr Gly  
 210 215 220  
 Lys Thr Thr Ala Ile Leu Phe Thr Ile Thr Ser Ile Phe Ala Thr Leu  
 225 230 235 240  
 Trp Ala Pro Arg Ile Ile Met Ile Leu Tyr His Leu Tyr Gly Ala Pro  
 245 250 255  
 Ile Gln Asn Arg Trp Leu Val His Ile Met Ser Asp Ile Ala Asn Met  
 260 265 270  
 Leu Ala Leu Leu Asn Thr Ala Ile Asn Phe Phe Leu Tyr Cys Phe Ile  
 275 280 285  
 Ser Lys Arg Phe Arg Thr Met Ala Ala Ala Thr Leu Lys Ala Phe Phe  
 290 295 300  
 Lys Cys Gln Lys Gln Pro Val Gln Phe Tyr Thr Asn His Asn Phe Ser  
 305 310 315 320

Ile Thr Ser Ser Pro Trp Ile Ser Pro Ala Asn Ser His Cys Ile Lys  
 325 330 335

Met Leu Val Tyr Gln Tyr Asp Lys Asn Gly Lys Pro Ile Lys Val Ser  
 340 345 350

Pro

<210> 23  
 <211> 2392  
 <212> DNA  
 <213> Homo sapiens

<400> 23  
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 cagcgaggag ctgccatctg tgaaatgggc cctcaccaga ctccgaatct gccagtatct 180  
 tgctcttggg acttccagcc tccggaactg taaacacagc aacaaaaaag ttatgagaac 240  
 caagagctct gagaaggctg ccaacgatga tcacagtgtc cgtgtggccc gtgaagatgt 300  
 cagagagagt tgcccacctc ttggtctgga aaccttaaaa atcacagact tccagctcca 360  
 tgctccacg gtgaagcgct atggcctggg ggcacatcga gggagactca acatccaggc 420  
 gggcattaat gaaaatgatt tttatgacgg agcgtggtgc gcgggaagaa atgacctcca 480  
 gcagtggatt gaagtggatg ctcggcgccct gaccagattc actggtgtca tcaactcaagg 540  
 gaggaactcc ctctggctga gtgactgggt gacatcctat aaggtcatgg tgagcaatga 600  
 cagccacacg tgggtcactg ttaagaatgg atctggagac atgatatttg agggaaacag 660  
 tgagaaggag atccctgttc tcaatgagct acccgtcccc atggtggccc gctacatccg 720  
 cataaaccct cagtcctggg ttgataatgg gagcatctgc atgagaatgg agatcctggg 780  
 ctgcccactg ccagatccta ataattatta tcaccgccgg aacgagatga ccaccactga 840  
 tgacctggat tttaagcacc acaattataa ggaaatgcgc caggtacagt tgatgaaagt 900  
 tgtgaatgaa atgtgtccca atatcaccag aatttacaac attggaaaaa gccaccaggg 960  
 cctgaagctg tatgctgtgg agatctcaga tcaccctggg gagcatgaag tcggtgagcc 1020  
 cgagttccac tacatcgcgg gggcccacgg caatgagggt ctgggcccgg agctgctgct 1080  
 gctgctgggt cagttcgtgt gtcaggagta cttggcccgg aatgcgcgca tcgtccacct 1140  
 ggtggaggag acgcggttcc acgtcctccc ctccctcaac cccgatggct acgagaaggc 1200  
 ctacgaaggg ggctcggagc tgggaggctg gtccctggga cgctggacct acgatggaat 1260  
 tgacatcaac aacaactttc ctgatttaaa cacgctgctc tgggaggcag aggatcgaca 1320  
 gaatgtcccc aggaaagttc ccaatcacta tattgcaatc cctgagtggg ttctgtcgga 1380  
 aaatgccacg gtggtggctg ccgagaccag agcagtcata gcctggatgg aaaaaatccc 1440  
 ttttgtgctg ggcggcaacc tgcagggcgg cgagctgggt gtggcgtaac cctacgacct 1500  
 ggtgcggtcc ccctggaaga cgcaggaaca cacccccacc cccgacgacc acgtgttccg 1560  
 ctggctggcc tactcctatg cctccacaca ccgcctcatg acagacgccc ggaggagggt 1620  
 gtgccacacg gaggacttcc aaaaggagga gggcactgtc aatggggcct cctggcacac 1680  
 cgtcgctgga agtctgaacg atttcagcta ccttcataca aactgcttcg aactgtccat 1740  
 ctacgtgggc tgtgataaat acccatatga gagccagctg cccgaggagt gggagaataa 1800  
 ccgggaatct ctgatcgtgt tcatggagca gggtcatcgt ggcattaaag gcttgggtgag 1860  
 agattcacat ggaaaaggaa tcccaaacgc cattatctcc gtagaaggca ttaaccatga 1920  
 catccgaaca gccaacgatg gggattactg gcgcctcctg aaccctggag agtatgtggg 1980  
 cacagcaaag gccgaaggtt tcaactgcac caccaagaac tgtatggttg gctatgacat 2040  
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 taattcaaga agtgcctgga agagaggggt cattgtgagg caggtcccaa aagggaaggc 2340  
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<210> 24  
 <211> 650  
 <212> PRT  
 <213> Homo sapiens

<400> 24

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Arg	Val	Ala	Arg	Glu	Asp	Val	Arg	Glu	Ser	Cys	Pro	Pro	Leu	Gly	Leu
			20					25					30		
Glu	Thr	Leu	Lys	Ile	Thr	Asp	Phe	Gln	Leu	His	Ala	Ser	Thr	Val	Lys
		35					40					45			
Arg	Tyr	Gly	Leu	Gly	Ala	His	Arg	Gly	Arg	Leu	Asn	Ile	Gln	Ala	Gly
	50					55					60				
Ile	Asn	Glu	Asn	Asp	Phe	Tyr	Asp	Gly	Ala	Trp	Cys	Ala	Gly	Arg	Asn
65					70					75					80
Asp	Leu	Gln	Gln	Trp	Ile	Glu	Val	Asp	Ala	Arg	Arg	Leu	Thr	Arg	Phe
				85					90					95	
Thr	Gly	Val	Ile	Thr	Gln	Gly	Arg	Asn	Ser	Leu	Trp	Leu	Ser	Asp	Trp
			100					105					110		
Val	Thr	Ser	Tyr	Lys	Val	Met	Val	Ser	Asn	Asp	Ser	His	Thr	Trp	Val
		115					120					125			
Thr	Val	Lys	Asn	Gly	Ser	Gly	Asp	Met	Ile	Phe	Glu	Gly	Asn	Ser	Glu
	130					135					140				
Lys	Glu	Ile	Pro	Val	Leu	Asn	Glu	Leu	Pro	Val	Pro	Met	Val	Ala	Arg
145					150					155					160
Tyr	Ile	Arg	Ile	Asn	Pro	Gln	Ser	Trp	Phe	Asp	Asn	Gly	Ser	Ile	Cys
				165					170					175	
Met	Arg	Met	Glu	Ile	Leu	Gly	Cys	Pro	Leu	Pro	Asp	Pro	Asn	Asn	Tyr
			180					185					190		
Tyr	His	Arg	Arg	Asn	Glu	Met	Thr	Thr	Thr	Asp	Asp	Leu	Asp	Phe	Lys
		195					200					205			
His	His	Asn	Tyr	Lys	Glu	Met	Arg	Gln	Val	Gln	Leu	Met	Lys	Val	Val
	210					215					220				
Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr	Arg	Ile	Tyr	Asn	Ile	Gly	Lys	Ser
225					230					235					240
His	Gln	Gly	Leu	Lys	Leu	Tyr	Ala	Val	Glu	Ile	Ser	Asp	His	Pro	Gly
				245					250					255	
Glu	His	Glu	Val	Gly	Glu	Pro	Glu	Phe	His	Tyr	Ile	Ala	Gly	Ala	His
			260					265					270		

Gly Asn Glu Val Leu Gly Arg Glu Leu Leu Leu Leu Leu Val Gln Phe  
 275 280 285  
 Val Cys Gln Glu Tyr Leu Ala Arg Asn Ala Arg Ile Val His Leu Val  
 290 295 300  
 Glu Glu Thr Arg Ile His Val Leu Pro Ser Leu Asn Pro Asp Gly Tyr  
 305 310 315 320  
 Glu Lys Ala Tyr Glu Gly Gly Ser Glu Leu Gly Gly Trp Ser Leu Gly  
 325 330 335  
 Arg Trp Thr His Asp Gly Ile Asp Ile Asn Asn Asn Phe Pro Asp Leu  
 340 345 350  
 Asn Thr Leu Leu Trp Glu Ala Glu Asp Arg Gln Asn Val Pro Arg Lys  
 355 360 365  
 Val Pro Asn His Tyr Ile Ala Ile Pro Glu Trp Phe Leu Ser Glu Asn  
 370 375 380  
 Ala Thr Val Val Ala Ala Glu Thr Arg Ala Val Ile Ala Trp Met Glu  
 385 390 395 400  
 Lys Ile Pro Phe Val Leu Gly Gly Asn Leu Gln Gly Gly Glu Leu Val  
 405 410 415  
 Val Ala Tyr Pro Tyr Asp Leu Val Arg Ser Pro Trp Lys Thr Gln Glu  
 420 425 430  
 His Thr Pro Thr Pro Asp Asp His Val Phe Arg Trp Leu Ala Tyr Ser  
 435 440 445  
 Tyr Ala Ser Thr His Arg Leu Met Thr Asp Ala Arg Arg Arg Val Cys  
 450 455 460  
 His Thr Glu Asp Phe Gln Lys Glu Glu Gly Thr Val Asn Gly Ala Ser  
 465 470 475 480  
 Trp His Thr Val Ala Gly Ser Leu Asn Asp Phe Ser Tyr Leu His Thr  
 485 490 495  
 Asn Cys Phe Glu Leu Ser Ile Tyr Val Gly Cys Asp Lys Tyr Pro His  
 500 505 510  
 Glu Ser Gln Leu Pro Glu Glu Trp Glu Asn Asn Arg Glu Ser Leu Ile  
 515 520 525  
 Val Phe Met Glu Gln Val His Arg Gly Ile Lys Gly Leu Val Arg Asp  
 530 535 540  
 Ser His Gly Lys Gly Ile Pro Asn Ala Ile Ile Ser Val Glu Gly Ile  
 545 550 555 560  
 Asn His Asp Ile Arg Thr Ala Asn Asp Gly Asp Tyr Trp Arg Leu Leu  
 565 570 575

Asn Pro Gly Glu Tyr Val Val Thr Ala Lys Ala Glu Gly Phe Thr Ala  
 580 585 590  
 Ser Thr Lys Asn Cys Met Val Gly Tyr Asp Met Gly Ala Thr Arg Cys  
 595 600 605  
 Asp Phe Thr Leu Ser Lys Thr Asn Met Ala Arg Ile Arg Glu Ile Met  
 610 615 620  
 Glu Lys Phe Gly Lys Gln Pro Val Ser Leu Pro Ala Arg Arg Leu Lys  
 625 630 635 640  
 Leu Arg Gly Arg Lys Arg Arg Gln Arg Gly  
 645 650

<210> 25  
 <211> 328  
 <212> DNA  
 <213> Homo sapiens

<400> 25  
 aaataagatt gaggaagctc ctgaagaagt cttatgtcct cccaagtact taaagctttc 60  
 accaaaacac ccagaatcaa atactgctgg aatggacatc ttgccaaat tctctgcata 120  
 catcaagaat tcaaggccag aggttaatga agcattagt aagcatctct taaaaaccct 180  
 gcagaaaatg gaatatctga attctcctct ccctgatgaa attgatgaaa atagcatgca 240  
 ggacactaag ttttctacac ataaatttct gaatggcaat aaaatggcat tagctgattg 300  
 ccatctgctg cccaaactgc atattgtc 328

<210> 26  
 <211> 331  
 <212> DNA  
 <213> Homo sapiens

<400> 26  
 aaataagatt gaggaatttc ttgaagaagt cttatgccct cccaagtact taaagctttc 60  
 accaaaacac ccagaatcaa atactgctgg aatggacatc ttgccaaat tctctgcata 120  
 tatcaagaat tcaaggccag aggctaata gaagcctggag aggggtctcc tgaaaaccct 180  
 gcagaaactg gatgaatata tgaattctcc tctccctgat gaaattgatg aaaatagtat 240  
 ggaggacata aagttttcta cacgtaaatt tctggatggc aatgaaatga cattagctga 300  
 ttgcaacctg ctgcccacac tgcattattgt c 331

<210> 27  
 <211> 247  
 <212> PRT  
 <213> Homo sapiens

<400> 27  
 Met Ala Leu Ser Met Pro Leu Asn Gly Leu Lys Glu Glu Asp Lys Glu  
 1 5 10 15  
 Pro Leu Ile Glu Leu Phe Val Lys Ala Gly Ser Asp Gly Glu Ser Ile  
 20 25 30



Gly Asn Cys Pro Phe Ser Gln Arg Leu Phe Met Ile Leu Trp Leu Lys  
                   35                                  40                                  45  
 Gly Val Val Phe Ser Val Thr Thr Val Asp Leu Lys Arg Lys Pro Ala  
                   50                                  55                                  60  
 Asp Leu Gln Asn Leu Ala Pro Gly Thr His Pro Pro Phe Ile Thr Phe  
   65                                  70                                  75                                  80  
 Asn Ser Glu Val Lys Thr Asp Val Asn Lys Ile Glu Glu Phe Leu Glu  
                                   85                                  90                                  95  
 Glu Val Leu Cys Pro Pro Lys Tyr Leu Lys Leu Ser Pro Lys His Pro  
                                   100                                  105                                  110  
 Glu Ser Asn Thr Ala Gly Met Asp Ile Phe Ala Lys Phe Ser Ala Tyr  
                   115                                  120                                  125  
 Ile Lys Asn Ser Arg Pro Glu Ala Asn Glu Ala Leu Glu Arg Gly Leu  
   130                                  135                                  140  
 Leu Lys Thr Leu Gln Lys Leu Asp Glu Tyr Leu Asn Ser Pro Leu Pro  
  145                                  150                                  155                                  160  
 Asp Glu Ile Asp Glu Asn Ser Met Glu Asp Ile Lys Phe Ser Thr Arg  
                   165                                  170                                  175  
 Arg Phe Leu Asp Gly Asp Glu Met Thr Leu Ala Asp Cys Asn Leu Leu  
                   180                                  185                                  190  
 Pro Lys Leu His Ile Val Lys Val Val Ala Lys Lys Tyr Arg Asn Phe  
                   195                                  200                                  205  
 Asp Ile Pro Lys Gly Met Thr Gly Ile Trp Arg Tyr Leu Thr Asn Ala  
   210                                  215                                  220  
 Tyr Ser Arg Asp Glu Phe Thr Asn Thr Cys Pro Ser Asp Lys Glu Val  
  225                                  230                                  235                                  240  
 Glu Ile Ala Tyr Ser Asp Val  
                                   245

<210> 28

<211> 550

<212> DNA

<213> Homo sapiens

<400> 28

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catgtaagag ggcacagcat gtttcccatg ctggaccctg ctctgctcac tccacacacc 120
ttctgacacc caccatggac actgttcagc aactggaaga aagagggcac ctgatggaca 180
gcaaaggctt tgatgaataa taaatacatg aaggaactag gagtgggact agccctctgc 240
gaaaaaaagg gtgctatggc caaaaaagat tgtattagct tttttgatgg caaaaacctc 300
accataaaaa tggagagtac tttaaaatca tacagttttc tcacactcag gggagggaaa 360
ttcaaagaaa ctacaggtga cggcagaaaa actcagactg cacctttaca tatggcacat 420
tggttcgaca tcagaagtgg aatggaaagg aaggcaaat aagaaaattg aaagacagga 480
  
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aattagtggg ggactgcatc ataaacaatg tcacctgtac tcagatctat gaaaaagtag 540  
aataaaaaact 550

<210> 29  
<211> 136  
<212> PRT  
<213> Homo sapiens

<400> 29  
Met Asp Thr Val Gln Gln Leu Glu Glu Arg Gly His Leu Met Asp Ser  
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Lys Gly Phe Asp Glu Asn Lys Tyr Met Lys Glu Leu Gly Val Gly Leu  
20 25 30  
Ala Leu Cys Glu Lys Lys Gly Ala Met Ala Lys Lys Asp Cys Ile Ser  
35 40 45  
Phe Phe Asp Gly Lys Asn Leu Thr Ile Lys Met Glu Ser Thr Leu Lys  
50 55 60  
Ser Tyr Ser Phe Leu Thr Leu Arg Gly Gly Lys Phe Lys Glu Thr Thr  
65 70 75 80  
Gly Asp Gly Arg Lys Thr Gln Thr Cys Thr Phe Thr Tyr Gly Thr Leu  
85 90 95  
Val Arg His Gln Lys Trp Asn Gly Lys Glu Gly Lys Ile Arg Lys Leu  
100 105 110  
Lys Asp Arg Lys Leu Val Val Asp Cys Ile Ile Asn Asn Val Thr Cys  
115 120 125  
Thr Gln Ile Tyr Glu Lys Val Glu  
130 135

<210> 30  
<211> 135  
<212> PRT  
<213> Homo sapiens

<400> 30  
Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser  
1 5 10 15  
Lys Gly Phe Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu  
20 25 30  
Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp  
35 40 45  
Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln  
50 55 60  
Phe Ser Cys Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly

65		70		75		80									
Arg	Lys	Thr	Gln	Thr	Val	Cys	Asn	Phe	Thr	Asp	Gly	Ala	Leu	Val	Gln
			85						90					95	
His	Gln	Glu	Trp	Asp	Gly	Lys	Glu	Ser	Thr	Ile	Thr	Arg	Lys	Leu	Lys
		100						105					110		
Asp	Gly	Lys	Leu	Val	Val	Glu	Cys	Val	Met	Asn	Asn	Val	Thr	Cys	Thr
		115					120					125			
Arg	Ile	Tyr	Glu	Lys	Val	Glu									
	130					135									

<210> 31  
 <211> 135  
 <212> PRT  
 <213> Homo sapiens

<400> 31
Met Ala Thr Val Gln Gln Leu Glu Gly Arg Trp Arg Leu Val Asp Ser
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Lys Gly Phe Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu
20 25 30
Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp
35 40 45
Gly Lys Asn Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln
50 55 60
Phe Ser Cys Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly
65 70 75 80
Arg Lys Thr Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln
85 90 95
His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys
100 105 110
Asp Gly Lys Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr
115 120 125
Arg Ile Tyr Glu Lys Val Glu
130 135

<210> 32  
 <211> 512  
 <212> DNA  
 <213> Homo sapiens

<400> 32  
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 gtggtgctga cgccgcccc gaccggcgca aggccatccc caggcccaga ttacctgcgg 120

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cgcggtctgga tgcggctgct agcggagggc gagggctgcg ctccctgccg gccagaagag 180
tgcgccgcgc cgcggggctg cctggcgggc aggggtgcgc acgcgtgcgc ctgctgctgg 240
gaatgcgcca acctcgaggg ccagctctgc gacctggacc ccagtgtca cttctacggg 300
cactgcggcg agcagcttga gtgccggctg gacacaggcg gcgacctgag ccgcggagag 360
gtgccggaac ctctgtgtgc ctgtcgttcg cagagtccgc tctgcgggtc cgacgggtcac 420
acctactccc agatctgccg cctgcaggag gcggcccgcg ctcgccccga tgccaacctc 480
actgtggcac acccggggcc ctgcgaatcg gg 512

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<210> 33

<211> 512

<212> DNA

<213> Homo sapiens

<400> 33

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atgtgtccgc cgccgcggcc cgcagctgcc ttggcgctgc ctgtgtcct gctactgctg 60
gtggtgctga cgccgcccc gaccggcgca aggccatccc caggcccaga ttacctgcgg 120
cgcggtctgga tgcggctgct agcggagggc gagggctgcg ctccctgccg gccagaagag 180
tgcgccgcgc cgcggggctg cctggcgggc aggggtgcgc acgcgtgcgc ctgctgctgg 240
gaatgcgcca acctcgaggg ccagctctgc gacctggacc ccagtgtca cttctacggg 300
cactgcggcg agcagcttga gtgccggctg gacacaggcg gcgacctgag ccgcggagag 360
gtgccggaac ctctgtgtgc ctgtcgttcg cagagtccgc tctgcgggtc cgacgggtcac 420
acctactccc agatctgccg cctgcaggag gcggcccgcg ctcgccccga tgccaacctc 480
actgtggcac acccggggcc ctgcgaatcg gg 512

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<210> 34

<211> 304

<212> PRT

<213> Homo sapiens

<400> 34

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Met Leu Pro Pro Pro Arg Pro Ala Ala Ala Leu Ala Leu Pro Val Leu
  1                      5                      10                      15

```

```

Leu Leu Leu Leu Val Val Leu Thr Pro Pro Pro Thr Gly Ala Arg Pro
      20                      25                      30

```

```

Ser Pro Gly Pro Asp Tyr Leu Arg Arg Gly Trp Met Arg Leu Leu Ala
      35                      40                      45

```

```

Glu Gly Glu Gly Cys Ala Pro Cys Arg Pro Glu Glu Cys Ala Ala Pro
      50                      55                      60

```

```

Arg Gly Cys Leu Ala Gly Arg Val Arg Asp Ala Cys Gly Cys Cys Trp
      65                      70                      75                      80

```

```

Glu Cys Ala Asn Leu Glu Gly Gln Leu Cys Asp Leu Asp Pro Ser Ala
      85                      90                      95

```

```

His Phe Tyr Gly His Cys Gly Glu Gln Leu Glu Cys Arg Leu Asp Thr
     100                      105                      110

```

```

Gly Gly Asp Leu Ser Arg Gly Glu Val Pro Glu Pro Leu Cys Ala Cys
     115                      120                      125

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Arg Ser Gln Ser Pro Leu Cys Gly Ser Asp Gly His Thr Tyr Ser Gln

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130	135	140
Ile Cys Arg Leu Gln Glu Ala Ala Arg Ala Arg Pro Asp Ala Asn Leu		
145	150	155 160
Thr Val Ala His Pro Gly Pro Cys Glu Ser Gly Pro Gln Ile Val Ser		
	165	170 175
His Pro Tyr Asp Thr Trp Asn Val Thr Gly Gln Asp Val Ile Phe Gly		
	180	185 190
Cys Glu Val Phe Ala Tyr Pro Met Ala Ser Ile Glu Trp Arg Lys Asp		
	195	200 205
Gly Leu Asp Ile Gln Leu Pro Gly Asp Asp Pro His Ile Ser Val Gln		
	210	215 220
Phe Arg Gly Gly Pro Gln Arg Phe Glu Val Thr Gly Trp Leu Gln Ile		
	225	230 235 240
Gln Ala Val Arg Pro Ser Asp Glu Gly Thr Tyr Arg Cys Leu Ala Arg		
	245	250 255
Asn Ala Leu Gly Gln Val Glu Ala Pro Ala Ser Leu Thr Val Leu Thr		
	260	265 270
Pro Asp Gln Leu Asn Ser Thr Gly Ile Pro Gln Leu Arg Ser Leu Asn		
	275	280 285
Leu Val Pro Glu Glu Glu Ala Glu Ser Glu Glu Asn Asp Asp Tyr Tyr		
	290	295 300

<210> 35  
 <211> 1308  
 <212> DNA  
 <213> Homo sapiens

<400> 35  
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 tgggggctct gggtcccgga tctccgtgtc ccgctccacc agcttcaggg gcggcatggg 180  
 gtccgggggc ctggccaccg ggatagccgg gggctctggca ggaatgggag gcatccagaa 240  
 cgagaaggag accatgcaaa gcctgaacga ccgcctggcc tcttacctgg acagagttag 300  
 gagcctggag accgagaacc ggaggctgga gagcaaaatc cgggagcact tggagaagaa 360  
 gggacccag gtcagagact ggagccatta cttcaagatc atcgaggacc tgagggtctca 420  
 gatcttcgca aatactgtgg acaatgcccg catcgttctg cagattgaca atgcccgtct 480  
 tgctgctgat gacttttagag tcaagtatga gacagagctg gccatgcgcc agtctgtgga 540  
 gaacgacatc catgggctcc gcaaggatcat tgatgacacc aatatcacac gactgcagct 600  
 ggagacagag atcgaggctc tcaaggagga gctgctcttc atgaagaaga accacgaaga 660  
 ggaagtaaaa ggcctacaag cccagattgc cagctctggg ttgaccgtgg aggtagatgc 720  
 ccccaaattc caggacctcg ccaagatcat ggcagacatc cgggcccaat atgacgagct 780  
 ggctcggaag aaccgagagg agctagacaa gtactggtct cagcagattg aggagagcac 840  
 cacagtggctc accacacagt ctgctgaggt tggagctgct gagacgacgc tcacagagct 900

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gagacgtaca gtccagtcct tggagatcga cctggactcc atgagaaatc tgaaggccag 960
cttggagaac agcctgaggg aggtggaggc ccgctacgcc ctacagatgg agcagctcaa 1020
cgggatcctg ctgcaccttg agtcagagct ggcacagacc cgggcagagg gacagcgcca 1080
ggcccaggag tatgaggccc tgctgaacat caaggtcaag ctggaggctg agatcgccac 1140
ctaccgccgc ctgctggaag atggcgagga ctttaatctt ggtgatgcct tggacagcag 1200
caactccatg caaaccatcc aaaagaccac caccgcggg atagtggatg gcaaagtggg 1260
gtctgagacc aatgacacca aagttctgag gcattaagcc agcagaag 1308

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<210> 36

<211> 430

<212> PRT

<213> Homo sapiens

<400> 36

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Met Ser Phe Thr Thr Arg Ser Thr Phe Ser Thr Asn Tyr Arg Ser Leu
  1                      5                      10                      15

Gly Ser Val Gln Ala Pro Ser Tyr Gly Ala Arg Pro Val Ser Ser Ala
          20                      25                      30

Ala Ser Val Tyr Ala Gly Ala Gly Gly Ser Gly Ser Arg Ile Ser Val
          35                      40                      45

Ser Arg Ser Thr Ser Phe Arg Gly Gly Met Gly Ser Gly Gly Leu Ala
          50                      55                      60

Thr Gly Ile Ala Gly Gly Leu Ala Gly Met Gly Gly Ile Gln Asn Glu
          65                      70                      75                      80

Lys Glu Thr Met Gln Ser Leu Asn Asp Arg Leu Ala Ser Tyr Leu Asp
          85                      90                      95

Arg Val Arg Ser Leu Glu Thr Glu Asn Arg Arg Leu Glu Ser Lys Ile
          100                     105                     110

Arg Glu His Leu Glu Lys Lys Gly Pro Gln Val Arg Asp Trp Ser His
          115                     120                     125

Tyr Phe Lys Ile Ile Glu Asp Leu Arg Ala Gln Ile Phe Ala Asn Thr
          130                     135                     140

Val Asp Asn Ala Arg Ile Val Leu Gln Ile Asp Asn Ala Arg Leu Ala
          145                     150                     155                     160

Ala Asp Asp Phe Arg Val Lys Tyr Glu Thr Glu Leu Ala Met Arg Gln
          165                     170                     175

Ser Val Glu Asn Asp Ile His Gly Leu Arg Lys Val Ile Asp Asp Thr
          180                     185                     190

Asn Ile Thr Arg Leu Gln Leu Glu Thr Glu Ile Glu Ala Leu Lys Glu
          195                     200                     205

Glu Leu Leu Phe Met Lys Lys Asn His Glu Glu Glu Val Lys Gly Leu
          210                     215                     220

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Gln Ala Gln Ile Ala Ser Ser Gly Leu Thr Val Glu Val Asp Ala Pro  
 225 230 235 240  
 Lys Ser Gln Asp Leu Ala Lys Ile Met Ala Asp Ile Arg Ala Gln Tyr  
 245 250 255  
 Asp Glu Leu Ala Arg Lys Asn Arg Glu Glu Leu Asp Lys Tyr Trp Ser  
 260 265 270  
 Gln Gln Ile Glu Glu Ser Thr Thr Val Val Thr Thr Gln Ser Ala Glu  
 275 280 285  
 Val Gly Ala Ala Glu Thr Thr Leu Thr Glu Leu Arg Arg Thr Val Gln  
 290 295 300  
 Ser Leu Glu Ile Asp Leu Asp Ser Met Arg Asn Leu Lys Ala Ser Leu  
 305 310 315 320  
 Glu Asn Ser Leu Arg Glu Val Glu Ala Arg Tyr Ala Leu Gln Met Glu  
 325 330 335  
 Gln Leu Asn Gly Ile Leu Leu His Leu Glu Ser Glu Leu Ala Gln Thr  
 340 345 350  
 Arg Ala Glu Gly Gln Arg Gln Ala Gln Glu Tyr Glu Ala Leu Leu Asn  
 355 360 365  
 Ile Lys Val Lys Leu Glu Ala Glu Ile Ala Thr Tyr Arg Arg Leu Leu  
 370 375 380  
 Glu Asp Gly Glu Asp Phe Asn Leu Gly Asp Ala Leu Asp Ser Ser Asn  
 385 390 395 400  
 Ser Met Gln Thr Ile Gln Lys Thr Thr Thr Arg Arg Ile Val Asp Gly  
 405 410 415  
 Lys Val Val Ser Glu Thr Asn Asp Thr Lys Val Leu Arg His  
 420 425 430

<210> 37

<211> 722

<212> PRT

<213> Mus musculus

<400> 37

Met Trp Gly Leu Leu Leu Ala Val Thr Ala Phe Ala Pro Ser Val Gly  
 1 5 10 15  
 Leu Gly Leu Gly Ala Pro Ser Ala Ser Val Pro Gly Leu Ala Pro Gly  
 20 25 30  
 Ser Thr Leu Ala Pro His Ser Ser Val Ala Gln Pro Ser Thr Lys Ala  
 35 40 45  
 Asn Glu Thr Ser Glu Arg His Val Arg Leu Arg Val Ile Lys Lys Lys  
 50 55 60

Lys Ile Val Val Lys Lys Arg Lys Lys Leu Arg His Pro Gly Pro Leu  
 65 70 75 80  
 Gly Thr Ala Arg Pro Val Val Pro Thr His Pro Ala Lys Thr Leu Thr  
 85 90 95  
 Leu Pro Glu Lys Gln Glu Pro Gly Cys Pro Pro Leu Gly Leu Glu Ser  
 100 105 110  
 Leu Arg Val Ser Asp Ser Gln Leu Glu Ala Ser Ser Ser Gln Ser Phe  
 115 120 125  
 Gly Leu Gly Ala His Arg Gly Arg Leu Asn Ile Gln Ser Gly Leu Glu  
 130 135 140  
 Asp Gly Asp Leu Tyr Asp Gly Ala Trp Cys Ala Glu Gln Gln Asp Thr  
 145 150 155 160  
 Glu Pro Trp Leu Gln Val Asp Ala Lys Asn Pro Val Arg Phe Ala Gly  
 165 170 175  
 Ile Val Thr Gln Gly Arg Asn Ser Val Trp Arg Tyr Asp Trp Val Thr  
 180 185 190  
 Ser Phe Lys Val Gln Phe Ser Asn Asp Ser Gln Thr Trp Trp Lys Ser  
 195 200 205  
 Arg Asn Ser Thr Gly Met Asp Ile Val Phe Pro Ala Asn Ser Asp Ala  
 210 215 220  
 Glu Thr Pro Val Leu Asn Leu Leu Pro Glu Pro Gln Val Ala Arg Phe  
 225 230 235 240  
 Ile Arg Leu Leu Pro Gln Thr Trp Phe Gln Gly Gly Val Pro Cys Leu  
 245 250 255  
 Arg Ala Glu Ile Leu Ala Cys Pro Val Ser Asp Pro Asn Asp Leu Phe  
 260 265 270  
 Pro Glu Ala His Thr Leu Gly Ser Ser Asn Ser Leu Asp Phe Arg His  
 275 280 285  
 His Asn Tyr Lys Ala Met Arg Lys Leu Met Lys Gln Val Asn Glu Gln  
 290 295 300  
 Cys Pro Asn Ile Thr Arg Ile Tyr Ser Ile Gly Lys Ser His Gln Gly  
 305 310 315 320  
 Leu Lys Leu Tyr Val Met Glu Met Ser Asp His Pro Gly Glu His Glu  
 325 330 335  
 Leu Gly Glu Pro Glu Val Arg Tyr Val Ala Gly Met His Gly Asn Glu  
 340 345 350  
 Ala Leu Gly Arg Glu Leu Leu Leu Leu Leu Met Gln Phe Leu Cys His  
 355 360 365



Glu	Phe	Leu	Arg	Gly	Asp	Pro	Arg	Val	Thr	Arg	Leu	Leu	Thr	Glu	Thr	370	375	380	
Arg	Ile	His	Leu	Leu	Pro	Ser	Met	Asn	Pro	Asp	Gly	Tyr	Glu	Thr	Ala	385	390	395	400
Tyr	His	Arg	Gly	Ser	Glu	Leu	Val	Gly	Trp	Ala	Glu	Gly	Arg	Trp	Thr	405	410	415	
His	Gln	Gly	Ile	Asp	Leu	Asn	His	Asn	Phe	Ala	Asp	Leu	Asn	Thr	Gln	420	425	430	
Leu	Trp	Tyr	Ala	Glu	Asp	Asp	Gly	Leu	Val	Pro	Asp	Thr	Val	Pro	Asn	435	440	445	
His	His	Leu	Pro	Leu	Pro	Thr	Tyr	Tyr	Thr	Leu	Pro	Asn	Ala	Thr	Val	450	455	460	
Ala	Pro	Glu	Thr	Trp	Ala	Val	Ile	Lys	Trp	Met	Lys	Arg	Ile	Pro	Phe	465	470	475	480
Val	Leu	Ser	Ala	Asn	Leu	His	Gly	Gly	Glu	Leu	Val	Val	Ser	Tyr	Pro	485	490	495	
Phe	Asp	Met	Thr	Arg	Thr	Pro	Trp	Ala	Ala	Arg	Glu	Leu	Thr	Pro	Thr	500	505	510	
Pro	Asp	Asp	Ala	Val	Phe	Arg	Trp	Leu	Ser	Thr	Val	Tyr	Ala	Gly	Thr	515	520	525	
Asn	Arg	Ala	Met	Gln	Asp	Thr	Asp	Arg	Arg	Pro	Cys	His	Ser	Gln	Asp	530	535	540	
Phe	Ser	Leu	His	Gly	Asn	Val	Ile	Asn	Gly	Ala	Asp	Trp	His	Thr	Val	545	550	555	560
Pro	Gly	Ser	Met	Asn	Asp	Phe	Ser	Tyr	Leu	His	Thr	Asn	Cys	Phe	Glu	565	570	575	
Val	Thr	Val	Glu	Leu	Ser	Cys	Asp	Lys	Phe	Pro	His	Glu	Lys	Glu	Leu	580	585	590	
Pro	Gln	Glu	Trp	Glu	Asn	Asn	Lys	Asp	Ala	Leu	Leu	Thr	Tyr	Leu	Glu	595	600	605	
Gln	Val	Arg	Met	Gly	Ile	Thr	Gly	Val	Val	Arg	Asp	Lys	Asp	Thr	Glu	610	615	620	
Leu	Gly	Ile	Ala	Asp	Ala	Val	Ile	Ala	Val	Glu	Gly	Ile	Asn	His	Asp	625	630	635	640
Val	Thr	Thr	Ala	Trp	Gly	Gly	Asp	Tyr	Trp	Arg	Leu	Leu	Thr	Pro	Gly	645	650	655	
Asp	Tyr	Val	Val	Thr	Ala	Ser	Ala	Glu	Gly	Tyr	His	Thr	Val	Arg	Gln	660	665	670	

His Cys Gln Val Thr Phe Glu Glu Gly Pro Val Pro Cys Asn Phe Leu  
675 680 685

Leu Thr Lys Thr Pro Lys Glu Arg Leu Arg Glu Leu Leu Ala Thr Arg  
690 695 700

Gly Lys Leu Pro Pro Asp Leu Arg Arg Lys Leu Glu Arg Leu Arg Gly  
705 710 715 720

Gln Lys

<210> 38  
<211> 734  
<212> PRT  
<213> Homo sapiens

<400> 38  
Met Trp Gly Leu Leu Leu Ala Leu Ala Ala Phe Ala Pro Ala Val Gly  
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Pro Ala Leu Gly Ala Pro Arg Asn Ser Val Leu Gly Leu Ala Gln Pro  
20 25 30

Gly Thr Thr Lys Val Pro Gly Ser Thr Pro Ala Leu His Ser Ser Pro  
35 40 45

Ala Gln Pro Pro Ala Glu Thr Ala Asn Gly Thr Ser Glu Gln His Val  
50 55 60

Arg Ile Arg Val Ile Lys Lys Lys Lys Val Ile Met Lys Lys Arg Lys  
65 70 75 80

Lys Leu Thr Leu Thr Arg Pro Thr Pro Leu Val Thr Ala Gly Pro Leu  
85 90 95

Val Thr Pro Thr Pro Ala Gly Thr Leu Asp Pro Ala Glu Lys Gln Glu  
100 105 110

Thr Gly Cys Pro Pro Leu Gly Leu Glu Ser Leu Arg Val Ser Asp Ser  
115 120 125

Arg Leu Glu Ala Ser Ser Ser Gln Ser Phe Gly Leu Gly Pro His Arg  
130 135 140

Gly Arg Leu Asn Ile Gln Ser Gly Leu Glu Asp Gly Asp Leu Tyr Asp  
145 150 155 160

Gly Ala Trp Cys Ala Glu Glu Gln Asp Ala Asp Pro Trp Phe Gln Val  
165 170 175

Asp Ala Gly His Pro Thr Arg Phe Ser Gly Val Ile Thr Gln Gly Arg  
180 185 190

Asn Ser Val Trp Arg Tyr Asp Trp Val Thr Ser Tyr Lys Val Gln Phe

195					200					205					
Ser	Asn	Asp	Ser	Arg	Thr	Trp	Trp	Gly	Ser	Arg	Asn	His	Ser	Ser	Gly
210						215					220				
Met	Asp	Ala	Val	Phe	Pro	Ala	Asn	Ser	Asp	Pro	Glu	Thr	Pro	Val	Leu
225					230				235						240
Asn	Leu	Leu	Pro	Glu	Pro	Gln	Val	Ala	Arg	Phe	Ile	Arg	Leu	Leu	Pro
			245						250					255	
Gln	Thr	Trp	Leu	Gln	Gly	Gly	Ala	Pro	Cys	Leu	Arg	Ala	Glu	Ile	Leu
			260					265					270		
Ala	Cys	Pro	Val	Ser	Asp	Pro	Asn	Asp	Leu	Phe	Leu	Glu	Ala	Pro	Ala
		275					280					285			
Ser	Gly	Ser	Ser	Asp	Pro	Leu	Asp	Phe	Gln	His	His	Asn	Tyr	Lys	Ala
290						295					300				
Met	Arg	Lys	Leu	Met	Lys	Gln	Val	Gln	Glu	Gln	Cys	Pro	Asn	Ile	Thr
305					310					315					320
Arg	Ile	Tyr	Ser	Ile	Gly	Lys	Ser	Tyr	Gln	Gly	Leu	Lys	Leu	Tyr	Val
				325					330					335	
Met	Glu	Met	Ser	Asp	Lys	Pro	Gly	Glu	His	Glu	Leu	Gly	Glu	Pro	Glu
			340					345					350		
Val	Arg	Tyr	Val	Ala	Gly	Met	His	Gly	Asn	Glu	Ala	Leu	Gly	Arg	Glu
		355					360					365			
Leu	Leu	Leu	Leu	Leu	Met	Gln	Phe	Leu	Cys	His	Glu	Phe	Leu	Arg	Gly
370						375					380				
Asn	Pro	Gln	Val	Thr	Arg	Leu	Leu	Ser	Glu	Met	Arg	Ile	His	Leu	Leu
385					390					395					400
Pro	Ser	Met	Asn	Pro	Asp	Gly	Tyr	Glu	Ile	Ala	Tyr	His	Arg	Gly	Ser
				405					410					415	
Glu	Leu	Val	Gly	Trp	Ala	Glu	Gly	Arg	Trp	Asn	Asn	Gln	Ser	Ile	Asp
			420					425					430		
Leu	Asn	His	Asn	Phe	Ala	Asp	Leu	Asn	Thr	Pro	Leu	Trp	Glu	Ala	Gln
		435					440					445			
Asp	Asp	Gly	Lys	Val	Pro	His	Ile	Val	Pro	Asn	His	His	Leu	Pro	Leu
	450					455					460				
Pro	Thr	Tyr	Tyr	Thr	Leu	Pro	Asn	Ala	Thr	Val	Ala	Pro	Glu	Thr	Arg
465					470					475					480
Ala	Val	Ile	Lys	Trp	Met	Lys	Arg	Ile	Pro	Phe	Val	Leu	Ser	Ala	Asn
				485					490					495	
Leu	His	Gly	Gly	Glu	Leu	Val	Val	Ser	Tyr	Pro	Phe	Asp	Met	Thr	Arg

500					505					510					
Thr	Pro	Trp	Ala	Ala	Arg	Glu	Leu	Thr	Pro	Thr	Pro	Asp	Asp	Ala	Val
		515					520					525			
Phe	Arg	Trp	Leu	Ser	Thr	Val	Tyr	Ala	Gly	Ser	Asn	Leu	Ala	Met	Gln
	530					535					540				
Asp	Thr	Ser	Arg	Arg	Pro	Cys	His	Ser	Gln	Asp	Phe	Ser	Val	His	Gly
545					550					555					560
Asn	Ile	Ile	Asn	Gly	Ala	Asp	Trp	His	Thr	Val	Pro	Gly	Ser	Met	Asn
				565					570					575	
Asp	Phe	Ser	Tyr	Leu	His	Thr	Asn	Cys	Phe	Glu	Val	Thr	Val	Glu	Leu
			580					585					590		
Ser	Cys	Asp	Lys	Phe	Pro	His	Glu	Asn	Glu	Leu	Pro	Gln	Glu	Trp	Glu
		595					600					605			
Asn	Asn	Lys	Asp	Ala	Leu	Leu	Thr	Tyr	Leu	Glu	Gln	Val	Arg	Met	Gly
	610					615					620				
Ile	Ala	Gly	Val	Val	Arg	Asp	Lys	Asp	Thr	Glu	Leu	Gly	Ile	Ala	Asp
625					630					635					640
Ala	Val	Ile	Ala	Val	Asp	Gly	Ile	Asn	His	Asp	Val	Thr	Thr	Ala	Trp
				645					650					655	
Gly	Gly	Asp	Tyr	Trp	Arg	Leu	Leu	Thr	Pro	Gly	Asp	Tyr	Met	Val	Thr
			660					665					670		
Ala	Ser	Ala	Glu	Gly	Tyr	His	Ser	Val	Thr	Arg	Asn	Cys	Arg	Val	Thr
		675					680					685			
Phe	Glu	Glu	Gly	Pro	Phe	Pro	Cys	Asn	Phe	Val	Leu	Thr	Lys	Thr	Pro
	690					695					700				
Lys	Gln	Arg	Leu	Arg	Glu	Leu	Leu	Ala	Ala	Gly	Ala	Lys	Val	Pro	Pro
705					710					715				720	
Asp	Leu	Arg	Arg	Arg	Leu	Glu	Arg	Leu	Arg	Gly	Gln	Lys	Asp		
				725					730						

<210> 39

<211> 267

<212> DNA

<213> Homo sapiens

<400> 39

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ggaaggacac cgacccgtcc atctaccgga tccacgctgg ggacgtgtat ctctacgggg 60
gccgggggct gctgaacgtc agccggatca tcgtccaccc caactatgtc actgcggggc 120
tggtgtcgga tgtggccctg ctccagctgg tgagcccat gatcggagcc gctaattgtca 180
ggacgggtcaa gctctccccg gtctcgctgg agtcacccc gaaggaccag tgctgggtga 240
ctggctgggg agcgatcagg atgttcg                                267

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<210> 40  
 <211> 267  
 <212> DNA  
 <213> Homo sapiens

<400> 40  
 ggaaggacac cgacccgtcc atctaccgga tccacgctgg ggacgtgtat ctctacgggg 60  
 gccgggggct gctgaacgtc agccggatca tcgtccaccc caactatgtc actgcggggc 120  
 tgggtgcgga tgtggccctg ctccagctgg tgagcccat gatctgagcc gctaattgtca 180  
 ggacggtcaa gctctccccg gtctcgctgg agtcacccc gaaggaccag tgctgggtga 240  
 ctggctgggg agcgatcagg atgttcg 267

<210> 41  
 <211> 255  
 <212> PRT  
 <213> Homo sapiens

<400> 41  
 Pro Val Pro Glu Asn Asp Leu Val Gly Ile Val Gly Gly His Asn Ala  
 1 5 10 15  
 Pro Pro Gly Lys Trp Pro Trp Gln Val Ser Leu Arg Val Tyr Ser Tyr  
 20 25 30  
 His Trp Ala Ser Trp Ala His Ile Cys Gly Gly Ser Leu Ile His Pro  
 35 40 45  
 Gln Trp Val Leu Thr Ala Ala His Cys Ile Phe Trp Lys Asp Thr Asp  
 50 55 60  
 Pro Ser Ile Tyr Arg Ile His Ala Gly Asp Val Tyr Leu Tyr Gly Gly  
 65 70 75 80  
 Arg Gly Leu Leu Asn Val Ser Arg Ile Ile Val His Pro Asn Tyr Val  
 85 90 95  
 Thr Ala Gly Leu Gly Ala Asp Val Ala Leu Leu Gln Leu Val Ser Pro  
 100 105 110  
 Met Ile Gly Ala Ala Asn Val Arg Thr Val Lys Leu Ser Pro Val Ser  
 115 120 125  
 Leu Glu Leu Thr Pro Lys Asp Gln Cys Trp Val Thr Gly Trp Gly Ala  
 130 135 140  
 Ile Arg Met Phe Glu Ser Leu Pro Pro Pro Tyr Arg Leu Gln Gln Ala  
 145 150 155 160  
 Ser Val Gln Val Leu Glu Asn Ala Val Cys Glu Gln Pro Tyr Arg Asn  
 165 170 175  
 Ala Ser Gly His Thr Gly Asp Arg Gln Leu Ile Leu Asp Asp Met Leu  
 180 185 190  
 Cys Ala Gly Ser Glu Gly Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly

195	200	205
Pro Leu Val Cys Arg Leu Arg Gly Ser Trp Arg Leu Val Gly Val Val		
210	215	220
Ser Trp Gly Tyr Gly Cys Thr Leu Arg Asp Phe Pro Gly Val Tyr Thr		
225	230	235 240
His Val Gln Ile Tyr Val Leu Trp Ile Leu Gln Gln Val Gly Glu		
	245	250 255

<210> 42  
 <211> 252  
 <212> PRT  
 <213> Mus musculus

<400> 42
Pro Arg Pro Ala Asn Gln Arg Val Gly Ile Val Gly Gly His Glu Ala
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Ser Glu Ser Lys Trp Pro Trp Gln Val Ser Leu Arg Phe Lys Leu Asn
20 25 30
Tyr Trp Ile His Phe Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val
35 40 45
Leu Thr Ala Ala His Cys Val Gly Pro His Ile Lys Ser Pro Gln Leu
50 55 60
Phe Arg Val Gln Leu Arg Glu Gln Tyr Leu Tyr Tyr Gly Asp Gln Leu
65 70 75 80
Leu Ser Leu Asn Arg Ile Val Val His Pro His Tyr Tyr Thr Ala Glu
85 90 95
Gly Gly Ala Asp Val Ala Leu Leu Glu Leu Glu Val Pro Val Asn Val
100 105 110
Ser Thr His Ile His Pro Ile Ser Leu Pro Pro Ala Ser Glu Thr Phe
115 120 125
Pro Pro Gly Thr Ser Cys Trp Val Thr Gly Trp Gly Asp Ile Asp Asn
130 135 140
Asp Glu Pro Leu Pro Pro Pro Tyr Pro Leu Lys Gln Val Lys Val Pro
145 150 155 160
Ile Val Glu Asn Ser Leu Cys Asp Arg Lys Tyr His Thr Gly Leu Tyr
165 170 175
Thr Gly Asp Asp Phe Pro Ile Val His Asp Gly Met Leu Cys Ala Gly
180 185 190
Asn Thr Arg Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val
195 200 205

Cys Lys Val Lys Gly Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly  
 210 215 220

Glu Gly Cys Ala Gln Pro Asn Lys Pro Gly Ile Tyr Thr Arg Val Thr  
 225 230 235 240

Tyr Tyr Leu Asp Trp Ile His Arg Tyr Val Pro Glu  
 245 250

<210> 43

<211> 278

<212> PRT

<213> Homo sapiens

<400> 43

Met Leu Trp Leu Leu Phe Leu Thr Leu Pro Cys Leu Gly Gly Ser Met  
 1 5 10 15

Ser Lys Thr Pro Val Pro Val Pro Glu Asn Asp Leu Val Gly Ile Val  
 20 25 30

Gly Gly His Asn Ala Pro Pro Gly Lys Trp Pro Trp Gln Val Ser Leu  
 35 40 45

Arg Val Tyr Ser Tyr His Trp Ala Ser Trp Ala His Ile Cys Gly Gly  
 50 55 60

Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Ile Phe  
 65 70 75 80

Trp Lys Asp Thr Asp Pro Ser Ile Tyr Arg Ile His Ala Gly Asp Val  
 85 90 95

Tyr Leu Tyr Gly Gly Arg Gly Leu Leu Asn Val Ser Arg Ile Ile Val  
 100 105 110

His Pro Asn Tyr Val Thr Ala Gly Leu Gly Ala Asp Val Ala Leu Leu  
 115 120 125

Gln Leu Val Ser Pro Met Ile Gly Ala Ala Asn Val Arg Thr Val Lys  
 130 135 140

Leu Ser Pro Val Ser Leu Glu Leu Thr Pro Lys Asp Gln Cys Trp Val  
 145 150 155 160

Thr Gly Trp Gly Ala Ile Arg Met Phe Glu Ser Leu Pro Pro Pro Tyr  
 165 170 175

Arg Leu Gln Gln Ala Ser Val Gln Val Leu Glu Asn Ala Val Cys Glu  
 180 185 190

Gln Pro Tyr Arg Asn Ala Ser Gly His Thr Gly Asp Arg Gln Leu Ile  
 195 200 205

Leu Asp Asp Met Leu Cys Ala Gly Ser Glu Gly Arg Asp Ser Cys Gln  
 210 215 220

Gly Asp Ser Gly Gly Pro Leu Val Cys Arg Leu Arg Gly Ser Trp Arg  
 225 230 235 240

Leu Val Gly Val Val Ser Trp Gly Tyr Gly Cys Thr Leu Arg Asp Phe  
 245 250 255

Pro Gly Val Tyr Thr His Val Gln Ile Tyr Val Leu Trp Ile Leu Gln  
 260 265 270

Gln Val Gly Glu Leu Pro  
 275

<210> 44  
 <211> 275  
 <212> PRT  
 <213> Homo sapiens

<400> 44  
 Met Leu Asn Leu Leu Leu Leu Ala Leu Pro Val Leu Ala Ser Arg Ala  
 1 5 10 15

Tyr Ala Ala Pro Ala Pro Gly Gln Ala Leu Gln Arg Val Gly Ile Val  
 20 25 30

Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu  
 35 40 45

Arg Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile  
 50 55 60

His Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro Asp Val  
 65 70 75 80

Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His Leu Tyr  
 85 90 95

Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His Pro Gln  
 100 105 110

Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu Leu Glu  
 115 120 125

Glu Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu Pro Pro  
 130 135 140

Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr Gly Trp  
 145 150 155 160

Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro Leu Lys  
 165 170 175

Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala Lys Tyr  
 180 185 190

His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg Asp Asp



195 200 205

Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly Asp Ser  
 210 215 220

Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln Ala Gly  
 225 230 235 240

Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro Gly Ile  
 245 250 255

Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr Val Pro  
 260 265 270

Lys Lys Pro  
 275

<210> 45  
 <211> 1170  
 <212> DNA  
 <213> Homo sapiens

<400> 45

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ggcagagggc	cggtgccggt	ccgacgccag	cgcccagcac	cccgggggtct	gcgtgagatg	120
ctgaaggcca	ggctgtggtg	cagctgctcg	tgcagtgtgc	tgtgcgtccg	ggcgctggtg	180
caggacctgc	tccccgccac	gcgctggctg	cgtcagtacc	gcccgcggga	gtacctggca	240
ggcgacgtca	tgtctgggct	ggtcatcggc	atcatcctgg	tcccgcaggc	catcgcctac	300
tatttgctgg	ccgggctgca	gcccattctac	agcctctata	cgtccttctt	cgccaacctc	360
atctacttcc	tcatgggcac	ctcacggcat	gtctccgtgg	gcattcttcag	cctgctttgc	420
ctcatgggtg	ggcaggtggt	ggaccgggag	ctccagctgg	ccggctttga	cccctcccag	480
gacggcctgc	agcccggagc	caacagcagc	accctcaacg	gctcggctgc	catgctggac	540
tgcgggcgtg	actgctacgc	catccgtgtc	gccaccgccc	tcacgctgat	gaccgggctt	600
taccaggtcc	tcatgggctg	cctccggctg	ggcttcgtgt	ccgcctacct	ctcacagcca	660
ctgctcgatg	gctttgccat	gggggcctcc	gtgaccatcc	tgacctcgca	gctcaaacac	720
ctgctgggcg	tgcggatccc	gcggcaccag	gggcccggca	tgggtggtcct	cacatggctg	780
agcctgctgc	gcggcgcccg	gcaggccaac	gtgtgcgacg	tggtcaccag	cacggtgtgc	840
ctggcggtgc	tgctagccgc	gaaggagctc	tcagaccgct	accgacaccg	cctgaggggtg	900
ccgctgcccc	cggagctgct	ggtcactcgt	gtggccacac	tcgtgtcgca	cttcggggcag	960
ctccacaagc	gctttggctc	gagcgtggct	ggcgacatcc	ccacgggttt	catgccccct	1020
caggtcccag	agcccaggct	gatgcagcgt	gtggctttgg	atgccgtggc	cctggccctc	1080
gtggctgccg	ccttctccat	ctcgctggcg	gagatgttcg	cccgcagtca	cggctactct	1140
gtgcgtgccca	accaggagct	gctggctgtg				1170

<210> 46  
 <211> 1170  
 <212> DNA  
 <213> Homo sapiens

<400> 46

caggtcggcc	acgggacctg	acgcaacagg	atggacgagt	cccctgagcc	tctgcagcag	60
ggcagagggc	cggtgccggt	ccgacggcag	cgcccagcac	cccgggggtct	gcgtgagatg	120
ctgaaggcca	ggctgtggtg	cagctgctcg	tgcagtgtgc	tgtgcgtccg	ggcgctggtg	180
caggacctgc	tccccgccac	gcgctggctg	cgtcagtacc	gcccgcggga	gtacctggca	240
ggcgacgtca	tgtctgggct	ggtcatcggc	atcatcctgg	tgccgcaggc	catcgcctac	300

```

tcattgctgg ccgggctgca gcccatctac agcctctata cgtccttctt cgccaacctc 360
atctacttcc tcatggggcac ctcacggcat gtctccgtgg gcattcttcag cctgctttgc 420
ctcatgggtgg ggcagggtgg ggaccgggag ctccagctgg ccggctttga cccctcccag 480
gacggcctgc agcccgagc caacagcagc accctcaacg gctcggctgc catgctggac 540
tgccggcgctg actgctacgc catcctgtgc gccaccgccc tcacgctgat gaccgggctt 600
taccaggtcc tcatggggcgt cctccggctg ggcttcgtgt ccgcctacct ctcacagcca 660
ctgctcgatg gctttgccat gggggcctcc gtgaccatcc tgacctcgca gctcaaacac 720
ctgctgggcg tgcggatccc gcggcaccag gggcccggca tgggtggtcct cacatggctg 780
agcctgctgc gcggcgccgg gcaggccaac gtgtgcgacg tggtcaccag cacggtgtgc 840
ctggcggtgc tgctagccgc gaaggagctc tcagaccgct accgacaccg cctgaggggtg 900
ccgctgcccc cggagctgct ggtcatcgtg gtggccacac tcgtgtcgca cttcgggcag 960
ctccacaagc gctttggctc gagcgtggct ggcgacatcc ccacgggttt catgccccct 1020
caggtcccag agcccaggct gatgcagcgt gtggctttgg atgccgtggc cctggccctc 1080
gtggctgccg ccttctccat ctcgctggcg gagatgttcg cccgcagtca cggctactct 1140
gtgcgtgccca accaggagct gctggctgtg 1170

```

<210> 47

<211> 434

<212> PRT

<213> Homo sapiens

<400> 47

```

Met Asp Glu Ser Pro Glu Pro Leu Gln Gln Gly Arg Gly Pro Val Pro
  1              5              10              15

```

```

Val Arg Arg Gln Arg Pro Ala Pro Arg Gly Leu Arg Glu Met Leu Lys
      20              25              30

```

```

Ala Arg Leu Trp Cys Ser Cys Ser Cys Ser Val Leu Cys Val Arg Ala
    35              40              45

```

```

Leu Val Gln Asp Leu Leu Pro Ala Thr Arg Trp Leu Arg Gln Tyr Arg
    50              55              60

```

```

Pro Arg Glu Tyr Leu Ala Gly Asp Val Met Ser Gly Leu Val Ile Gly
    65              70              75              80

```

```

Ile Ile Leu Val Pro Gln Ala Ile Ala Tyr Ser Leu Leu Ala Gly Leu
      85              90              95

```

```

Gln Pro Ile Tyr Ser Leu Tyr Thr Ser Phe Phe Ala Asn Leu Ile Tyr
    100             105             110

```

```

Phe Leu Met Gly Thr Ser Arg His Val Ser Val Gly Ile Phe Ser Leu
    115             120             125

```

```

Leu Cys Leu Met Val Gly Gln Val Val Asp Arg Glu Leu Gln Leu Ala
    130             135             140

```

```

Gly Phe Asp Pro Ser Gln Asp Gly Leu Gln Pro Gly Ala Asn Ser Ser
    145             150             155             160

```

```

Thr Leu Asn Gly Ser Ala Ala Met Leu Asp Cys Gly Arg Asp Cys Tyr
      165             170             175

```

```

Ala Ile Arg Val Ala Thr Ala Leu Thr Leu Met Thr Gly Leu Tyr Gln

```

180					185					190					
Val	Leu	Met	Gly	Val	Leu	Arg	Leu	Gly	Phe	Val	Ser	Ala	Tyr	Leu	Ser
	195						200					205			
Gln	Pro	Leu	Leu	Asp	Gly	Phe	Ala	Met	Gly	Ala	Ser	Val	Thr	Ile	Leu
	210					215					220				
Thr	Ser	Gln	Leu	Lys	His	Leu	Leu	Gly	Val	Arg	Ile	Pro	Arg	His	Gln
225					230					235					240
Gly	Pro	Gly	Met	Val	Val	Leu	Thr	Trp	Leu	Ser	Leu	Leu	Arg	Gly	Ala
				245					250					255	
Gly	Gln	Ala	Asn	Val	Cys	Asp	Val	Val	Thr	Ser	Thr	Val	Cys	Leu	Ala
			260					265					270		
Val	Leu	Leu	Ala	Ala	Lys	Glu	Leu	Ser	Asp	Arg	Tyr	Arg	His	Arg	Leu
	275						280					285			
Arg	Val	Pro	Leu	Pro	Thr	Glu	Leu	Leu	Val	Ile	Val	Val	Ala	Thr	Leu
	290					295					300				
Val	Ser	His	Phe	Gly	Gln	Leu	His	Lys	Arg	Phe	Gly	Ser	Ser	Val	Ala
305					310					315					320
Gly	Asp	Ile	Pro	Thr	Gly	Phe	Met	Pro	Pro	Gln	Val	Pro	Glu	Pro	Arg
				325					330					335	
Leu	Met	Gln	Arg	Val	Ala	Leu	Asp	Ala	Val	Ala	Leu	Ala	Leu	Val	Ala
			340					345					350		
Ala	Ala	Phe	Ser	Ile	Ser	Leu	Ala	Glu	Met	Phe	Ala	Arg	Ser	His	Gly
	355						360					365			
Tyr	Ser	Val	Arg	Ala	Asn	Gln	Glu	Leu	Leu	Ala	Val	His	Arg	Gly	His
	370					375					380				
Leu	Arg	Gly	Ala	Cys	Gln	Gly	Val	Gly	Leu	Pro	Gly	Cys	Gly	Gly	Ser
385					390					395					400
Pro	Ala	Asp	Ala	Leu	Val	Trp	Ala	Gly	Thr	Gly	Thr	Cys	Met	Leu	Val
				405					410					415	
Ser	Thr	Glu	Ala	Gly	Leu	Leu	Ala	Gly	Val	Ile	Leu	Ser	Leu	Leu	Ser
			420					425					430		
Leu	Ala														

<210> 48  
 <211> 435  
 <212> PRT  
 <213> Rattus rattus

<400> 48

Met	Asp	Ala	Ser	Pro	Glu	Pro	Pro	Gln	Lys	Gly	Gly	Thr	Leu	Val	Leu	
1				5					10					15		
Val	Arg	Arg	Gln	Pro	Pro	Val	Ser	Gln	Gly	Leu	Leu	Glu	Thr	Leu	Lys	
			20					25					30			
Ala	Arg	Leu	Lys	Lys	Ser	Cys	Thr	Cys	Ser	Met	Pro	Cys	Ala	Gln	Ala	
		35					40					45				
Leu	Val	Gln	Gly	Leu	Phe	Pro	Val	Ile	Arg	Trp	Leu	Pro	Gln	Tyr	Arg	
	50					55					60					
Leu	Lys	Glu	Tyr	Leu	Ala	Gly	Asp	Val	Met	Ser	Gly	Leu	Val	Ile	Gly	
65					70					75					80	
Ile	Ile	Leu	Val	Pro	Gln	Ala	Ile	Ala	Tyr	Ser	Leu	Leu	Ala	Gly	Leu	
				85					90					95		
Gln	Pro	Ile	Tyr	Ser	Leu	Tyr	Thr	Ser	Phe	Phe	Ala	Asn	Leu	Ile	Tyr	
			100					105					110			
Phe	Leu	Met	Gly	Thr	Ser	Arg	His	Val	Asn	Val	Gly	Ile	Phe	Ser	Leu	
		115					120					125				
Leu	Cys	Leu	Met	Val	Gly	Gln	Val	Val	Asp	Arg	Glu	Leu	Gln	Leu	Ala	
	130					135					140					
Gly	Phe	Asp	Pro	Ser	Gln	Asp	Ser	Leu	Gly	Pro	Gly	Asn	Asn	Asp	Ser	
145					150					155					160	
Thr	Leu	Asn	Asn	Thr	Ala	Thr	Leu	Thr	Val	Gly	Leu	Gln	Asp	Cys	Gly	
				165					170					175		
Arg	Asp	Cys	His	Ala	Ile	Arg	Ile	Ala	Thr	Ala	Leu	Thr	Leu	Met	Ala	
			180					185						190		
Gly	Leu	Tyr	Gln	Val	Leu	Met	Gly	Ile	Leu	Arg	Leu	Gly	Phe	Val	Ser	
		195					200					205				
Thr	Tyr	Leu	Ser	Gln	Pro	Leu	Leu	Asp	Gly	Phe	Ala	Met	Gly	Ala	Ser	
	210					215					220					
Val	Thr	Ile	Leu	Thr	Ser	Gln	Ala	Lys	His	Leu	Leu	Gly	Val	Arg	Ile	
225					230					235					240	
Pro	Arg	His	Gln	Gly	Leu	Gly	Met	Val	Ile	His	Thr	Trp	Leu	Ser	Leu	
			245						250					255		
Leu	Gln	Asn	Val	Gly	Gln	Ala	Asn	Leu	Cys	Asp	Val	Val	Thr	Ser	Ala	
			260					265					270			
Val	Cys	Leu	Ala	Val	Leu	Leu	Thr	Ala	Lys	Glu	Leu	Ser	Asp	Arg	Tyr	
		275					280					285				
Arg	His	Tyr	Leu	Lys	Val	Pro	Val	Pro	Thr	Glu	Leu	Leu	Val	Ile	Val	
	290					295					300					

Val Ala Thr Ile Ala Ser His Phe Gly Gln Leu His Thr Arg Phe Gly  
 305 310 315 320  
 Ser Ser Val Ala Gly Asn Ile Pro Thr Gly Phe Val Ala Pro Gln Ile  
 325 330 335  
 Pro Asp Pro Lys Ile Met Trp Ser Val Ala Leu Asp Ala Met Ser Leu  
 340 345 350  
 Ala Leu Val Gly Ser Ala Phe Ser Ile Ser Leu Ala Glu Met Phe Ala  
 355 360 365  
 Arg Ser His Gly Tyr Ser Val Ser Ala Asn Gln Glu Leu Leu Ala Val  
 370 375 380  
 Gly Cys Cys Asn Val Leu Pro Ala Phe Phe His Cys Phe Ala Thr Ser  
 385 390 395 400  
 Ala Ala Leu Ser Lys Thr Leu Val Lys Ile Ala Thr Gly Cys Gln Thr  
 405 410 415  
 Gln Leu Ser Ser Val Val Ser Ala Ala Val Val Leu Leu Val Leu Leu  
 420 425 430  
 Val Leu Ala  
 435

<210> 49  
 <211> 404  
 <212> DNA  
 <213> Homo sapiens

<400> 49  
 tggaggaggc tttctgtaat acctggaagc tgaccgacca gaactttgat gagtacctga 60  
 aggctctagg gatgggcttt gtcactaggc aggtgggaaa tgtggacaaa ccaagagtga 120  
 ttatcagtca agaagaagac aagggtggtga tcaggattca aagtatgttc aagaacacag 180  
 aggttagttt ccatctggga gaagagtttg atgaaaccac tacagatgac agaaactgca 240  
 agtttgttgt tagtctggac agagacaaac tcattcacat acagaaatgg gatgacaaag 300  
 aaacatattt tataagagaa attaagtatg gtgaaatggg tatgaccttt acttttgggtg 360  
 atgatgtggt tgccgttcac cactataaga aggcataaaa atgt 404

<210> 50  
 <211> 404  
 <212> DNA  
 <213> Homo sapiens

<400> 50  
 tgggtggaggc tttctgtgct acctggaagc tgaccaacag tcagaacttt gatgagtaca 60  
 tgaaggctct aggcgtgggc tttgccacta ggcaggtggg aaatgtgacc aaaccaacgg 120  
 taattatcag tcaagaagga gacaaagtgg tcatcaggac tctcagcaca ttcaagaaca 180  
 cggagattag tttccagctg ggagaagagt ttgatgaaac cactgcagat gatagaaact 240  
 gtaagtctgt tgtagcctg gatggagaca aacttggtca catacagaaa tgggatggca 300  
 aagaaacaaa ttttgtaaga gaaattaagg atggcaaaat ggttatgacc cttacttttg 360  
 gtgatgtggt tgctgttcgc cactatgaga aggcataaaa atgt 404

<210> 51  
 <211> 130  
 <212> PRT  
 <213> Homo sapiens

<400> 51  
 Glu Ala Phe Cys Asn Thr Trp Lys Leu Thr Asp Gln Asn Phe Asp Glu  
   1                  5                  10                  15  
 Tyr Met Lys Ala Leu Gly Met Gly Phe Val Thr Arg Gln Val Gly Asn  
                   20                  25                  30  
 Val Asp Lys Pro Arg Val Ile Ile Ser Gln Glu Glu Asp Lys Val Val  
           35                  40                  45  
 Ile Arg Ile Gln Ser Met Phe Lys Asn Thr Glu Val Ser Phe His Leu  
       50                  55                  60  
 Gly Glu Glu Phe Asp Glu Thr Thr Thr Asp Asp Arg Asn Cys Lys Phe  
   65                  70                  75                  80  
 Val Val Ser Leu Asp Arg Asp Lys Leu Ile His Ile Gln Lys Trp Asp  
                   85                  90                  95  
 Asp Lys Glu Thr Tyr Phe Ile Arg Glu Ile Lys Tyr Gly Glu Met Val  
           100                  105                  110  
 Met Thr Phe Thr Phe Gly Asp Asp Val Val Ala Val His His Tyr Lys  
       115                  120                  125  
 Lys Ala  
       130

<210> 52  
 <211> 130  
 <212> PRT  
 <213> Homo sapiens

<400> 52  
 Glu Ala Phe Cys Ala Thr Trp Lys Leu Thr Asn Ser Gln Asn Phe Asp  
   1                  5                  10                  15  
 Glu Tyr Met Lys Ala Leu Gly Val Gly Phe Ala Thr Arg Gln Val Gly  
           20                  25                  30  
 Asn Val Thr Lys Pro Thr Val Ile Ile Ser Gln Glu Gly Asp Lys Val  
       35                  40                  45  
 Val Ile Arg Thr Leu Ser Thr Phe Lys Asn Thr Glu Ile Ser Phe Gln  
       50                  55                  60  
 Leu Gly Glu Glu Phe Asp Glu Thr Thr Ala Asp Asp Arg Asn Cys Lys  
   65                  70                  75                  80  
 Ser Val Val Ser Leu Asp Gly Asp Lys Leu Val His Ile Gln Lys Trp



Asn Val Thr Lys Pro Thr Val Ile Ile Ser Gln Glu Gly Asp Lys Val  
 35 40 45  
 Val Ile Arg Thr Leu Ser Thr Phe Lys Asn Thr Glu Ile Ser Phe Gln  
 50 55 60  
 Leu Gly Glu Glu Phe Asp Glu Thr Thr Ala Asp Asp Arg Asn Cys Lys  
 65 70 75 80  
 Ser Val Val Ser Leu Asp Gly Asp Lys Leu Val His Ile Gln Lys Trp  
 85 90 95  
 Asp Gly Lys Glu Thr Asn Phe Val Arg Glu Ile Lys Asp Gly Lys Met  
 100 105 110  
 Val Met Thr Leu Thr Phe Gly Asp Val Val Ala Val Arg His Tyr Glu  
 115 120 125  
 Lys Ala  
 130

<210> 55  
 <211> 132  
 <212> PRT  
 <213> Homo sapiens

<400> 55  
 Val Glu Glu Ala Phe Cys Asn Thr Trp Lys Leu Thr Asp Gln Asn Phe  
 1 5 10 15  
 Asp Glu Tyr Met Lys Ala Leu Gly Met Gly Phe Val Thr Arg Gln Val  
 20 25 30  
 Gly Asn Val Asp Lys Pro Arg Val Ile Ile Ser Gln Glu Glu Asp Lys  
 35 40 45  
 Val Val Ile Arg Ile Gln Ser Met Phe Lys Asn Thr Glu Val Ser Phe  
 50 55 60  
 His Leu Gly Glu Glu Phe Asp Glu Thr Thr Thr Asp Asp Arg Asn Cys  
 65 70 75 80  
 Lys Phe Val Val Ser Leu Asp Arg Asp Lys Leu Ile His Ile Gln Lys  
 85 90 95  
 Trp Asp Asp Lys Glu Thr Tyr Phe Ile Arg Glu Ile Lys Tyr Gly Glu  
 100 105 110  
 Met Val Met Thr Phe Thr Phe Gly Asp Asp Val Val Ala Val His His  
 115 120 125  
 Tyr Lys Lys Ala  
 130



<210> 56  
 <211> 132  
 <212> PRT  
 <213> Homo sapiens

<400> 56  
 Val Glu Glu Ala Phe Cys Asn Thr Trp Lys Leu Thr Asp Gln Asn Phe  
   1                  5                  10                  15  
 Asp Glu Tyr Met Lys Ala Leu Gly Met Gly Phe Val Thr Arg Gln Val  
           20                  25                  30  
 Gly Asn Val Asp Lys Pro Arg Val Ile Ile Ser Gln Glu Glu Asp Lys  
           35                  40                  45  
 Val Val Ile Arg Ile Gln Ser Met Phe Lys Asn Thr Glu Val Ser Phe  
       50                  55                  60  
 His Leu Gly Glu Glu Phe Asp Glu Thr Thr Thr Asp Asp Arg Asn Cys  
   65                  70                  75                  80  
 Lys Phe Val Val Ser Leu Asp Arg Asp Lys Leu Ile His Ile Gln Lys  
                   85                  90                  95  
 Trp Asp Asp Lys Glu Thr Tyr Phe Ile Arg Glu Ile Lys Tyr Gly Glu  
           100                  105                  110  
 Met Val Met Thr Phe Thr Phe Gly Asp Asp Val Val Ala Val His His  
       115                  120                  125  
 Tyr Lys Lys Ala  
       130

<210> 57  
 <211> 272  
 <212> PRT  
 <213> Homo sapiens

<400> 57  
 Ala Cys Gly Leu Gly Phe Val Pro Val Val Tyr Tyr Ser Leu Leu Leu  
   1                  5                  10                  15  
 Cys Leu Gly Leu Pro Ala Asn Ile Leu Thr Val Ile Ile Leu Ser Gln  
       20                  25                  30  
 Leu Val Ala Arg Arg Gln Lys Ser Ser Tyr Asn Tyr Leu Leu Ala Leu  
       35                  40                  45  
 Ala Ala Ala Asp Ile Leu Val Leu Phe Phe Ile Val Phe Val Asp Phe  
       50                  55                  60  
 Leu Leu Glu Asp Phe Ile Leu Asn Met Gln Met Pro Gln Val Pro Asp  
   65                  70                  75                  80  
 Lys Ile Ile Glu Val Leu Glu Phe Ser Ser Ile His Thr Ser Ile Trp  
           85                  90                  95

Ile Thr Val Pro Leu Thr Ile Asp Arg Tyr Ile Ala Val Cys His Pro  
 100 105 110  
 Leu Lys Tyr His Thr Val Ser Tyr Pro Ala Arg Thr Arg Lys Val Ile  
 115 120 125  
 Val Ser Val Tyr Ile Thr Cys Phe Leu Thr Ser Ile Pro Tyr Tyr Trp  
 130 135 140  
 Trp Pro Asn Ile Trp Thr Glu Asp Tyr Ile Ser Thr Ser Val His His  
 145 150 155 160  
 Val Leu Ile Trp Ile His Cys Phe Thr Val Tyr Leu Val Pro Cys Ser  
 165 170 175  
 Ile Phe Phe Ile Leu Asn Ser Ile Ile Val Tyr Lys Leu Arg Arg Lys  
 180 185 190  
 Ser Asn Phe Arg Leu Arg Gly Tyr Ser Thr Gly Lys Thr Thr Ala Ile  
 195 200 205  
 Leu Phe Thr Ile Thr Ser Ile Phe Ala Thr Leu Trp Ala Pro Arg Ile  
 210 215 220  
 Ile Met Ile Leu Tyr His Leu Tyr Gly Ala Pro Ile Gln Asn Arg Trp  
 225 230 235 240  
 Leu Val His Ile Met Ser Asp Ile Ala Asn Met Leu Ala Leu Leu Asn  
 245 250 255  
 Thr Ala Ile Asn Phe Phe Leu Tyr Cys Phe Ile Ser Lys Arg Phe Arg  
 260 265 270

<210> 58  
 <211> 272  
 <212> PRT  
 <213> Homo sapiens

<400> 58  
 Ala Cys Gly Leu Gly Phe Val Pro Val Val Tyr Tyr Ser Leu Leu Leu  
 1 5 10 15  
 Cys Leu Gly Leu Pro Ala Asn Ile Leu Thr Val Ile Ile Leu Ser Gln  
 20 25 30  
 Leu Val Ala Arg Arg Gln Lys Ser Ser Tyr Asn Tyr Leu Leu Ala Leu  
 35 40 45  
 Ala Ala Ala Asp Ile Leu Val Leu Phe Phe Ile Val Phe Val Asp Phe  
 50 55 60  
 Leu Leu Glu Asp Phe Ile Leu Asn Met Gln Met Pro Gln Val Pro Asp

65	70	75	80
Lys Ile Ile Glu Val Leu Glu Phe Ser Ser	Ile His Thr Ser Ile Trp		
85	90	95	
Ile Thr Val Pro Leu Thr Ile Asp Arg Tyr	Ile Ala Val Cys His Pro		
100	105	110	
Leu Lys Tyr His Thr Val Ser Tyr Pro Ala Arg Thr Arg Lys Val Ile			
115	120	125	
Val Ser Val Tyr Ile Thr Cys Phe Leu Thr Ser Ile Pro Tyr Tyr Trp			
130	135	140	
Trp Pro Asn Ile Trp Thr Glu Asp Tyr Ile Ser Thr Ser Val His His			
145	150	155	160
Val Leu Ile Trp Ile His Cys Phe Thr Val Tyr Leu Val Pro Cys Ser			
165	170	175	
Ile Phe Phe Ile Leu Asn Ser Ile Ile Val Tyr Lys Leu Arg Arg Lys			
180	185	190	
Ser Asn Phe Arg Leu Arg Gly Tyr Ser Thr Gly Lys Thr Thr Ala Ile			
195	200	205	
Leu Phe Thr Ile Thr Ser Ile Phe Ala Thr Leu Trp Ala Pro Arg Ile			
210	215	220	
Ile Met Ile Leu Tyr His Leu Tyr Gly Ala Pro Ile Gln Asn Arg Trp			
225	230	235	240
Leu Val His Ile Met Ser Asp Ile Ala Asn Met Leu Ala Leu Leu Asn			
245	250	255	
Thr Ala Ile Asn Phe Phe Leu Tyr Cys Phe Ile Ser Lys Arg Phe Arg			
260	265	270	

<210> 59

<211> 350

<212> PRT

<213> Homo sapiens

<400> 59

Met Glu His Thr His Ala His Leu Ala Ala Asn Ser Ser Leu Ser Trp			
1	5	10	15
Trp Ser Pro Gly Ser Ala Cys Gly Leu Gly Phe Val Pro Val Val Tyr			
20	25	30	
Tyr Ser Leu Leu Leu Cys Leu Gly Leu Pro Ala Asn Ile Leu Thr Val			
35	40	45	

Ile Ile Leu Ser Gln Leu Val Ala Arg Arg Gln Lys Ser Ser Tyr Asn  
50 55 60

Tyr Leu Leu Ala Leu Ala Ala Ala Asp Ile Leu Val Leu Phe Phe Ile  
65 70 75 80

Val Phe Val Asp Phe Leu Leu Glu Asp Phe Ile Leu Asn Met Gln Met  
85 90 95

Pro	Gln	Val	Pro	Asp	Lys	Ile	Ile	Glu	Val	Leu	Glu	Phe	Ser	Ser	Ile
			100					105					110		

His Thr Ser Ile Trp Ile Thr Val Pro Leu Thr Ile Asp Arg Tyr Ile  
115 120 125

Thr Val Cys His Pro Leu Lys Tyr His Thr Val Ser Tyr Pro Ala Arg  
130 135 140

Thr Arg Lys Val Ile Val Ser Val Tyr Ile Thr Cys Phe Leu Thr Ser  
145 150 155 160

Ile Pro Tyr Tyr Trp Trp Pro Asn Ile Trp Thr Glu Asp Tyr Ile Ser  
165 170 175

Thr Ser Val His His Val Leu Ile Trp Ile His Cys Phe Thr Val Tyr  
180 185 190

Leu Val Pro Cys Ser Ile Phe Phe Ile Leu Asn Ser Ile Ile Val Tyr  
195 200 205

Lys Leu Arg Arg Lys Ser Asn Phe Arg Leu Arg Gly Tyr Ser Thr Gly  
210 215 220

Lys Thr Thr Ala Ile Leu Phe Thr Ile Thr Ser Ile Phe Ala Thr Leu  
225 230 235 240

Trp Ala Pro Arg Ile Ile Met Ile Leu Tyr His Leu Tyr Gly Ala Pro  
245 250 255

Ile Gln Asn Arg Trp Leu Val His Ile Met Ser Asp Ile Ala Asn Met  
260 265 270

Leu Ala Leu Leu Asn Thr Ala Ile Asn Phe Phe Leu Tyr Cys Phe Ile  
275 280 285

Ser Lys Arg Phe Arg Thr Met Ala Ala Ala Thr Leu Lys Ala Phe Phe  
290 295 300

Lys Cys Gln Lys Gln Pro Val Gln Phe Tyr Thr Asn His Asn Phe Ser  
305 310 315 320

Ile Thr Ser Ser Pro Trp Ile Ser Pro Ala Asn Ser His Cys Ile Lys  
325 330 335

Met	Leu	Val	Tyr	Gln	Tyr	Asp	Lys	Asn	Gly	Lys	Pro	Ile	Lys
			340					345					350

<210> 60  
 <211> 350  
 <212> PRT  
 <213> Homo sapiens

<400> 60

Met	Glu	His	Thr	His	Ala	His	Leu	Ala	Ala	Asn	Ser	Ser	Leu	Ser	Trp
1				5					10					15	
Trp	Ser	Pro	Gly	Ser	Ala	Cys	Gly	Leu	Gly	Phe	Val	Pro	Val	Val	Tyr
			20					25					30		
Tyr	Ser	Leu	Leu	Leu	Cys	Leu	Gly	Leu	Pro	Ala	Asn	Ile	Leu	Thr	Val
		35					40					45			
Ile	Ile	Leu	Ser	Gln	Leu	Val	Ala	Arg	Arg	Gln	Lys	Ser	Ser	Tyr	Asn
		50				55					60				
Tyr	Leu	Leu	Ala	Leu	Ala	Ala	Ala	Asp	Ile	Leu	Val	Leu	Phe	Phe	Ile
	65				70					75					80
Val	Phe	Val	Asp	Phe	Leu	Leu	Glu	Asp	Phe	Ile	Leu	Asn	Met	Gln	Met
				85					90					95	
Pro	Gln	Val	Pro	Asp	Lys	Ile	Ile	Glu	Val	Leu	Glu	Phe	Ser	Ser	Ile
			100					105					110		
His	Thr	Ser	Ile	Trp	Ile	Thr	Val	Pro	Leu	Thr	Ile	Asp	Arg	Tyr	Ile
		115					120					125			
Ala	Val	Cys	His	Pro	Leu	Lys	Tyr	His	Thr	Val	Ser	Tyr	Pro	Ala	Arg
	130					135					140				
Thr	Arg	Lys	Val	Ile	Val	Ser	Val	Tyr	Ile	Thr	Cys	Phe	Leu	Thr	Ser
	145				150					155					160
Ile	Pro	Tyr	Tyr	Trp	Trp	Pro	Asn	Ile	Trp	Thr	Glu	Asp	Tyr	Ile	Ser
				165					170					175	
Thr	Ser	Val	His	His	Val	Leu	Ile	Trp	Ile	His	Cys	Phe	Thr	Val	Tyr
			180					185					190		
Leu	Val	Pro	Cys	Ser	Ile	Phe	Phe	Ile	Leu	Asn	Ser	Ile	Ile	Val	Tyr
		195					200					205			
Lys	Leu	Arg	Arg	Lys	Ser	Asn	Phe	Arg	Leu	Arg	Gly	Tyr	Ser	Thr	Gly
	210					215					220				
Lys	Thr	Thr	Ala	Ile	Leu	Phe	Thr	Ile	Thr	Ser	Ile	Phe	Ala	Thr	Leu
	225				230					235					240
Trp	Ala	Pro	Arg	Ile	Ile	Met	Ile	Leu	Tyr	His	Leu	Tyr	Gly	Ala	Pro
				245					250					255	
Ile	Gln	Asn	Arg	Trp	Leu	Val	His	Ile	Met	Ser	Asp	Ile	Ala	Asn	Met
			260					265					270		

Leu Ala Leu Leu Asn Thr Ala Ile Asn Phe Phe Leu Tyr Cys Phe Ile  
 275 280 285  
 Ser Lys Arg Phe Arg Thr Met Ala Ala Ala Thr Leu Lys Ala Phe Phe  
 290 295 300  
 Lys Cys Gln Lys Gln Pro Val Gln Phe Tyr Thr Asn His Asn Phe Ser  
 305 310 315 320  
 Ile Thr Ser Ser Pro Trp Ile Ser Pro Ala Asn Ser His Cys Ile Lys  
 325 330 335  
 Met Leu Val Tyr Gln Tyr Asp Lys Asn Gly Lys Pro Ile Lys  
 340 345 350

<210> 61  
 <211> 657  
 <212> PRT  
 <213> Homo sapiens

<400> 61  
 Lys His Ser Asn Lys Lys Val Met Arg Thr Lys Ser Ser Glu Lys Ala  
 1 5 10 15  
 Ala Asn Asp Asp His Ser Val Arg Val Ala Arg Glu Asp Val Arg Glu  
 20 25 30  
 Ser Cys Pro Pro Leu Gly Leu Glu Thr Leu Lys Ile Thr Asp Phe Gln  
 35 40 45  
 Leu His Ala Ser Thr Val Lys Arg Tyr Gly Leu Gly Ala His Arg Gly  
 50 55 60  
 Arg Leu Asn Ile Gln Ala Gly Ile Asn Glu Asn Asp Phe Tyr Asp Gly  
 65 70 75 80  
 Ala Trp Cys Ala Gly Arg Asn Asp Leu Gln Gln Trp Ile Glu Val Asp  
 85 90 95  
 Ala Arg Arg Leu Thr Arg Phe Thr Gly Val Ile Thr Gln Gly Arg Asn  
 100 105 110  
 Ser Leu Trp Leu Ser Asp Trp Val Thr Ser Tyr Lys Val Met Val Ser  
 115 120 125  
 Asn Asp Ser His Thr Trp Val Thr Val Lys Asn Gly Ser Gly Asp Met  
 130 135 140  
 Ile Phe Glu Gly Asn Ser Glu Lys Glu Ile Pro Val Leu Asn Glu Leu  
 145 150 155 160  
 Pro Val Pro Met Val Ala Arg Tyr Ile Arg Ile Asn Pro Gln Ser Trp  
 165 170 175  
 Phe Asp Asn Gly Ser Ile Cys Met Arg Met Glu Ile Leu Gly Cys Pro

			180				185				190					
Leu	Pro	Asp	Pro	Asn	Asn	Tyr	Tyr	His	Arg	Arg	Asn	Glu	Met	Thr	Thr	
		195					200					205				
Thr	Asp	Asp	Leu	Asp	Phe	Lys	His	His	Asn	Tyr	Lys	Glu	Met	Arg	Gln	
	210					215					220					
Val	Gln	Leu	Met	Lys	Val	Val	Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr	Arg	
225					230					235					240	
Ile	Tyr	Asn	Ile	Gly	Lys	Ser	His	Gln	Gly	Leu	Lys	Leu	Tyr	Ala	Val	
				245					250					255		
Glu	Ile	Ser	Asp	His	Pro	Gly	Glu	His	Glu	Val	Gly	Glu	Pro	Glu	Phe	
			260					265					270			
His	Tyr	Ile	Ala	Gly	Ala	His	Gly	Asn	Glu	Val	Leu	Gly	Arg	Glu	Leu	
		275					280					285				
Leu	Leu	Leu	Leu	Val	Gln	Phe	Val	Cys	Gln	Glu	Tyr	Leu	Ala	Arg	Asn	
	290					295					300					
Ala	Arg	Ile	Val	His	Leu	Val	Glu	Glu	Thr	Arg	Ile	His	Val	Leu	Pro	
305					310					315					320	
Ser	Leu	Asn	Pro	Asp	Gly	Tyr	Glu	Lys	Ala	Tyr	Glu	Gly	Gly	Ser	Glu	
				325					330					335		
Leu	Gly	Gly	Trp	Ser	Leu	Gly	Arg	Trp	Thr	His	Asp	Gly	Ile	Asp	Ile	
			340					345					350			
Asn	Asn	Asn	Phe	Pro	Asp	Leu	Asn	Thr	Leu	Leu	Trp	Glu	Ala	Glu	Asp	
		355					360					365				
Arg	Gln	Asn	Val	Pro	Arg	Lys	Val	Pro	Asn	His	Tyr	Ile	Ala	Ile	Pro	
	370					375					380					
Glu	Trp	Phe	Leu	Ser	Glu	Asn	Ala	Thr	Val	Val	Ala	Ala	Glu	Thr	Arg	
385					390					395					400	
Ala	Val	Ile	Ala	Trp	Met	Glu	Lys	Ile	Pro	Phe	Val	Leu	Gly	Gly	Asn	
			405					410					415			
Leu	Gln	Gly	Gly	Glu	Leu	Val	Val	Ala	Tyr	Pro	Tyr	Asp	Leu	Val	Arg	
			420					425					430			
Ser	Pro	Trp	Lys	Thr	Gln	Glu	His	Thr	Pro	Thr	Pro	Asp	Asp	His	Val	
		435					440					445				
Phe	Arg	Trp	Leu	Ala	Tyr	Ser	Tyr	Ala	Ser	Thr	His	Arg	Leu	Met	Thr	
	450					455					460					
Asp	Ala	Arg	Arg	Arg	Val	Cys	His	Thr	Glu	Asp	Phe	Gln	Lys	Glu	Glu	
465					470					475					480	
Gly	Thr	Val	Asn	Gly	Ala	Ser	Trp	His	Thr	Val	Ala	Gly	Ser	Leu	Asn	





Ala	Trp	Cys	Ala	Gly	Arg	Asn	Asp	Leu	Gln	Gln	Trp	Ile	Glu	Val	Asp	
				85					90					95		
Ala	Arg	Arg	Leu	Thr	Arg	Phe	Thr	Gly	Val	Ile	Thr	Gln	Gly	Arg	Asn	
			100					105					110			
Ser	Leu	Trp	Leu	Ser	Asp	Trp	Val	Thr	Ser	Tyr	Lys	Val	Met	Val	Ser	
		115					120					125				
Asn	Asp	Ser	His	Thr	Trp	Val	Thr	Val	Lys	Asn	Gly	Ser	Gly	Asp	Met	
	130					135					140					
Ile	Phe	Glu	Gly	Asn	Ser	Glu	Lys	Glu	Ile	Pro	Val	Leu	Asn	Glu	Leu	
145				150						155					160	
Pro	Val	Pro	Met	Val	Ala	Arg	Tyr	Ile	Arg	Ile	Asn	Pro	Gln	Ser	Trp	
				165					170					175		
Phe	Asp	Asn	Gly	Ser	Ile	Cys	Met	Arg	Met	Glu	Ile	Leu	Gly	Cys	Pro	
			180					185					190			
Leu	Pro	Asp	Pro	Asn	Asn	Tyr	Tyr	His	Arg	Arg	Asn	Glu	Met	Thr	Thr	
		195					200					205				
Thr	Asp	Asp	Leu	Asp	Phe	Lys	His	His	Asn	Tyr	Lys	Glu	Met	Arg	Gln	
	210					215					220					
Leu	Met	Lys	Val	Val	Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr	Arg	Ile	Tyr	
225					230					235					240	
Asn	Ile	Gly	Lys	Ser	His	Gln	Gly	Leu	Lys	Leu	Tyr	Ala	Val	Glu	Ile	
				245					250					255		
Ser	Asp	His	Pro	Gly	Glu	His	Glu	Val	Gly	Glu	Pro	Glu	Phe	His	Tyr	
			260					265					270			
Ile	Ala	Gly	Ala	His	Gly	Asn	Glu	Val	Leu	Gly	Arg	Glu	Leu	Leu	Leu	
		275					280					285				
Leu	Leu	Val	Gln	Phe	Val	Cys	Gln	Glu	Tyr	Leu	Ala	Arg	Asn	Ala	Arg	
	290					295					300					
Ile	Val	His	Leu	Val	Glu	Glu	Thr	Arg	Ile	His	Val	Leu	Pro	Ser	Leu	
305					310					315					320	
Asn	Pro	Asp	Gly	Tyr	Glu	Lys	Ala	Tyr	Glu	Gly	Gly	Ser	Glu	Leu	Gly	
				325					330					335		
Gly	Trp	Ser	Leu	Gly	Arg	Trp	Thr	His	Asp	Gly	Ile	Asp	Ile	Asn	Asn	
			340					345					350			
Asn	Phe	Pro	Asp	Leu	Asn	Thr	Leu	Leu	Trp	Glu	Ala	Glu	Asp	Arg	Gln	
		355					360					365				
Asn	Val	Pro	Arg	Lys	Val	Pro	Asn	His	Tyr	Ile	Ala	Ile	Pro	Glu	Trp	
	370					375					380					

Phe Leu Ser Glu Asn Ala Thr Val Ala Ala Glu Thr Arg Ala Val Ile  
 385 390 395 400  
 Ala Trp Met Glu Lys Ile Pro Phe Val Leu Gly Gly Asn Leu Gln Gly  
 405 410 415  
 Gly Glu Leu Val Val Ala Tyr Pro Tyr Asp Leu Val Arg Ser Pro Trp  
 420 425 430  
 Lys Thr Gln Glu His Thr Pro Thr Pro Asp Asp His Val Phe Arg Trp  
 435 440 445  
 Leu Ala Tyr Ser Tyr Ala Ser Thr His Arg Leu Met Thr Asp Ala Arg  
 450 455 460  
 Arg Arg Val Cys His Thr Glu Asp Phe Gln Lys Glu Glu Gly Thr Val  
 465 470 475 480  
 Asn Gly Ala Ser Trp His Thr Val Ala Gly Ser Leu Asn Asp Phe Ser  
 485 490 495  
 Tyr Leu His Thr Asn Cys Phe Glu Leu Ser Ile Tyr Val Gly Cys Asp  
 500 505 510  
 Lys Tyr Pro His Glu Ser Gln Leu Pro Glu Glu Trp Glu Asn Asn Arg  
 515 520 525  
 Glu Ser Leu Ile Val Phe Met Glu Gln Val His Arg Gly Ile Lys Gly  
 530 535 540  
 Leu Val Arg Asp Ser His Gly Lys Gly Ile Pro Asn Ala Ile Ile Ser  
 545 550 555 560  
 Val Glu Gly Ile Asn His Asp Ile Arg Thr Ala Asn Asp Gly Asp Tyr  
 565 570 575  
 Trp Arg Leu Leu Asn Pro Gly Glu Tyr Val Val Thr Ala Lys Ala Glu  
 580 585 590  
 Gly Phe Thr Ala Ser Thr Lys Asn Cys Met Val Gly Tyr Asp Met Gly  
 595 600 605  
 Ala Thr Arg Cys Asp Phe Thr Leu Ser Lys Thr Asn Met Ala Arg Ile  
 610 615 620  
 Arg Glu Ile Met Glu Lys Phe Gly Lys Gln Pro Val Ser Leu Pro Ala  
 625 630 635 640  
 Arg Arg Leu Lys Leu Arg Gly Arg Lys Arg Arg Gln Arg Gly  
 645 650

<210> 63  
 <211> 509  
 <212> PRT  
 <213> Homo sapiens

<400> 63

Asn	Ser	Glu	Lys	Glu	Ile	Pro	Val	Leu	Asn	Glu	Leu	Pro	Val	Pro	Met	
1				5					10						15	
Val	Ala	Arg	Tyr	Ile	Arg	Ile	Asn	Pro	Gln	Ser	Trp	Phe	Asp	Asn	Gly	
			20					25					30			
Ser	Ile	Cys	Met	Arg	Met	Glu	Ile	Leu	Gly	Cys	Pro	Leu	Pro	Asp	Pro	
		35					40					45				
Asn	Asn	Tyr	Tyr	His	Arg	Arg	Asn	Glu	Met	Thr	Thr	Thr	Asp	Asp	Leu	
	50					55					60					
Asp	Phe	Lys	His	His	Asn	Tyr	Lys	Glu	Met	Arg	Gln	Val	Gln	Leu	Met	
65					70					75					80	
Lys	Val	Val	Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr	Arg	Ile	Tyr	Asn	Ile	
			85						90					95		
Gly	Lys	Ser	His	Gln	Gly	Leu	Lys	Leu	Tyr	Ala	Val	Glu	Ile	Ser	Asp	
			100					105					110			
His	Pro	Gly	Glu	His	Glu	Val	Gly	Glu	Pro	Glu	Phe	His	Tyr	Ile	Ala	
		115					120					125				
Gly	Ala	His	Gly	Asn	Glu	Val	Leu	Gly	Arg	Glu	Leu	Leu	Leu	Leu	Leu	
	130					135					140					
Val	Gln	Phe	Val	Cys	Gln	Glu	Tyr	Leu	Ala	Arg	Asn	Ala	Arg	Ile	Val	
145					150					155					160	
His	Leu	Val	Glu	Glu	Thr	Arg	Ile	His	Val	Leu	Pro	Ser	Leu	Asn	Pro	
			165						170					175		
Asp	Gly	Tyr	Glu	Lys	Ala	Tyr	Glu	Gly	Gly	Ser	Glu	Leu	Gly	Gly	Trp	
		180						185					190			
Ser	Leu	Gly	Arg	Trp	Thr	His	Asp	Gly	Ile	Asp	Ile	Asn	Asn	Asn	Phe	
		195					200					205				
Pro	Asp	Leu	Asn	Thr	Leu	Leu	Trp	Glu	Ala	Glu	Asp	Arg	Gln	Asn	Val	
	210					215					220					
Pro	Arg	Lys	Val	Pro	Asn	His	Tyr	Ile	Ala	Ile	Pro	Glu	Trp	Phe	Leu	
225					230					235					240	
Ser	Glu	Asn	Ala	Thr	Val	Val	Ala	Ala	Glu	Thr	Arg	Ala	Val	Ile	Ala	
			245						250					255		
Trp	Met	Glu	Lys	Ile	Pro	Phe	Val	Leu	Gly	Gly	Asn	Leu	Gln	Gly	Gly	
		260						265					270			
Glu	Leu	Val	Val	Ala	Tyr	Pro	Tyr	Asp	Leu	Val	Arg	Ser	Pro	Trp	Lys	
		275					280					285				
Thr	Gln	Glu	His	Thr	Pro	Thr	Pro	Asp	Asp	His	Val	Phe	Arg	Trp	Leu	
	290					295					300					

Ala Tyr Ser Tyr Ala Ser Thr His Arg Leu Met Thr Asp Ala Arg Arg  
 305 310 315 320  
 Arg Val Cys His Thr Glu Asp Phe Gln Lys Glu Glu Gly Thr Val Asn  
 325 330 335  
 Gly Ala Ser Trp His Thr Val Ala Gly Ser Leu Asn Asp Phe Ser Tyr  
 340 345 350  
 Leu His Thr Asn Cys Phe Glu Leu Ser Ile Tyr Val Gly Cys Asp Lys  
 355 360 365  
 Tyr Pro His Glu Ser Gln Leu Pro Glu Glu Trp Glu Asn Asn Arg Glu  
 370 375 380  
 Ser Leu Ile Val Phe Met Glu Gln Val His Arg Gly Ile Lys Gly Leu  
 385 390 395 400  
 Val Arg Asp Ser His Gly Lys Gly Ile Pro Asn Ala Ile Ile Ser Val  
 405 410 415  
 Glu Gly Ile Asn His Asp Ile Arg Thr Ala Asn Asp Gly Asp Tyr Trp  
 420 425 430  
 Arg Leu Leu Asn Pro Gly Glu Tyr Val Val Thr Ala Lys Ala Glu Gly  
 435 440 445  
 Phe Thr Ala Ser Thr Lys Asn Cys Met Val Gly Tyr Asp Met Gly Ala  
 450 455 460  
 Thr Arg Cys Asp Phe Thr Leu Ser Lys Thr Asn Met Ala Arg Ile Arg  
 465 470 475 480  
 Glu Ile Met Glu Lys Phe Gly Lys Gln Pro Val Ser Leu Pro Ala Arg  
 485 490 495  
 Arg Leu Lys Leu Arg Gly Arg Lys Arg Arg Gln Arg Gly  
 500 505

<210> 64  
 <211> 506  
 <212> PRT  
 <213> Homo sapiens

<400> 64  
 Asn Ser Glu Lys Glu Ile Pro Val Leu Asn Glu Leu Pro Val Pro Met  
 1 5 10 15  
 Val Ala Arg Tyr Ile Arg Ile Asn Pro Gln Ser Trp Phe Asp Asn Gly  
 20 25 30  
 Ser Ile Cys Met Arg Met Glu Ile Leu Gly Cys Pro Leu Pro Asp Pro  
 35 40 45  
 Asn Asn Tyr Tyr His Arg Arg Asn Glu Met Thr Thr Thr Asp Asp Leu

50					55					60					
Asp	Phe	Lys	His	His	Asn	Tyr	Lys	Glu	Met	Arg	Gln	Leu	Met	Lys	Val
65					70					75					80
Val	Asn	Glu	Met	Cys	Pro	Asn	Ile	Thr	Arg	Ile	Tyr	Asn	Ile	Gly	Lys
				85					90					95	
Ser	His	Gln	Gly	Leu	Lys	Leu	Tyr	Ala	Val	Glu	Ile	Ser	Asp	His	Pro
			100					105					110		
Gly	Glu	His	Glu	Val	Gly	Glu	Pro	Glu	Phe	His	Tyr	Ile	Ala	Gly	Ala
		115					120					125			
His	Gly	Asn	Glu	Val	Leu	Gly	Arg	Glu	Leu	Leu	Leu	Leu	Leu	Leu	His
	130					135					140				
Phe	Leu	Cys	Gln	Glu	Tyr	Ser	Ala	Gln	Asn	Ala	Arg	Ile	Val	Arg	Leu
145					150					155					160
Val	Glu	Glu	Thr	Arg	Ile	His	Ile	Leu	Pro	Ser	Leu	Asn	Pro	Asp	Gly
				165					170					175	
Tyr	Glu	Lys	Ala	Tyr	Glu	Gly	Gly	Ser	Glu	Leu	Gly	Gly	Trp	Ser	Leu
			180					185					190		
Gly	Arg	Trp	Thr	His	Asp	Gly	Ile	Asp	Ile	Asn	Asn	Asn	Phe	Pro	Asp
		195					200					205			
Leu	Asn	Ser	Leu	Leu	Trp	Glu	Ala	Glu	Asp	Gln	Gln	Asn	Ala	Pro	Arg
	210					215					220				
Lys	Val	Pro	Asn	His	Tyr	Ile	Ala	Ile	Pro	Glu	Trp	Phe	Leu	Ser	Glu
225					230					235					240
Asn	Ala	Thr	Val	Ala	Thr	Glu	Thr	Arg	Ala	Val	Ile	Ala	Trp	Met	Glu
				245					250					255	
Lys	Ile	Pro	Phe	Val	Leu	Gly	Gly	Asn	Leu	Gln	Gly	Gly	Glu	Leu	Val
			260					265					270		
Val	Ala	Tyr	Pro	Tyr	Asp	Met	Val	Arg	Ser	Leu	Trp	Lys	Thr	Gln	Glu
		275					280					285			
His	Thr	Pro	Thr	Pro	Asp	Asp	His	Val	Phe	Arg	Trp	Leu	Ala	Tyr	Ser
	290					295					300				
Tyr	Ala	Ser	Thr	His	Arg	Leu	Met	Thr	Asp	Ala	Arg	Arg	Arg	Val	Cys
305					310					315					320
His	Thr	Glu	Asp	Phe	Gln	Lys	Glu	Glu	Gly	Thr	Val	Asn	Gly	Ala	Ser
				325					330					335	
Trp	His	Thr	Val	Ala	Gly	Ser	Leu	Asn	Asp	Phe	Ser	Tyr	Leu	His	Thr
			340					345					350		
Asn	Cys	Phe	Glu	Leu	Ser	Ile	Tyr	Val	Gly	Cys	Asp	Lys	Tyr	Pro	His

355					360					365						
Glu	Ser	Glu	Leu	Pro	Glu	Glu	Trp	Glu	Asn	Asn	Arg	Glu	Ser	Leu	Ile	
370					375					380						
Val	Phe	Met	Glu	Gln	Val	His	Arg	Gly	Ile	Lys	Gly	Ile	Val	Arg	Asp	
385					390					395					400	
Leu	Gln	Gly	Lys	Gly	Ile	Ser	Asn	Ala	Val	Ile	Ser	Val	Glu	Gly	Val	
405					410					415						
Asn	His	Asp	Ile	Arg	Thr	Ala	Ser	Asp	Gly	Asp	Tyr	Trp	Arg	Leu	Leu	
420					425					430						
Asn	Pro	Gly	Glu	Tyr	Val	Val	Thr	Ala	Lys	Ala	Glu	Gly	Phe	Ile	Thr	
435					440					445						
Ser	Thr	Lys	Asn	Cys	Met	Val	Gly	Tyr	Asp	Met	Gly	Ala	Thr	Arg	Cys	
450					455					460						
Asp	Phe	Thr	Leu	Thr	Lys	Thr	Asn	Leu	Ala	Arg	Ile	Arg	Glu	Ile	Met	
465					470					475					480	
Glu	Thr	Phe	Gly	Lys	Gln	Pro	Val	Ser	Leu	Pro	Ser	Arg	Arg	Leu	Lys	
485					490					495						
Leu	Arg	Gly	Arg	Lys	Arg	Arg	Gln	Arg	Gly							
500					505											

<210> 65  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:chemically  
 synthesized oligonucleotide

<400> 65  
 tcacaggatg atgacacaag ctcc

24

<210> 66  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:chemically  
 synthesized oligonucleotide

<400> 66  
 atgtgatctt tggctgtgaa gt

22

<210> 67

<211> 23  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:chemically  
       synthesized oligonucleotide  
  
 <400> 67  
 ctaccccatg gcctccatcg agt 23  
  
  
 <210> 68  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:chemically  
       synthesized oligonucleotide  
  
 <400> 68  
 ggatgtccaa gccatcctt 19  
  
  
 <210> 69  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:chemically  
       synthesized oligonucleotide  
  
 <400> 69  
 tgactgctgc ccactgca 18  
  
  
 <210> 70  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:chemically  
       synthesized oligonucleotide  
  
 <400> 70  
 caccgaccgc tccatctacc ggat 24  
  
  
 <210> 71  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>

<223> Description of Artificial Sequence:chemically  
 synthesized oligonucleotide

<400> 71  
 gagatacacg tccccagcgt 20

<210> 72  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:chemically  
 synthesized oligonucleotide

<400> 72  
 ctcaagtacc acacggtctc at 22

<210> 73  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:chemically  
 synthesized oligonucleotide

<400> 73  
 ccgcacccgg aaagtcattg taagt 25

<210> 74  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:chemically  
 synthesized oligonucleotide

<400> 74  
 tcaggaagca ggtgatgtaa ac 22

<210> 75  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:chemically  
 synthesized oligonucleotide

<400> 75  
 ggaagctgac cgaccagaac 20



<210> 76  
 <211> 29  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:chemically  
       synthesized oligonucleotide  
  
 <400> 76  
 agcccatccc tagagccttc atgtactca 29  
  
 <210> 77  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:chemically  
       synthesized oligonucleotide  
  
 <400> 77  
 atttcccacc tgcctagtga ca 22  
  
 <210> 78  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:chemically  
       synthesized oligonucleotide  
  
 <400> 78  
 cagctcgctg tcttggtggt c 21